

CORNELL Chronicle

Volume 23 Number 22 February 20, 1992

Climbing festival

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The Lindseth Climbing Wall, the largest at any American university, will be the site of an Indoor Rock Climbing Festival and Open House this weekend, Feb. 22 and 23.

Biotechnology

Inside, a supplement published by the Biotechnology Program reports on the program's research support facilities.

Futuristic



Peter Morenus/University Photography

Student actor Ian Brown performs during dress rehearsal of Cornell's production of the musical *Cabaret* at the Center for Theatre Arts. While the original play, which opened in 1966, explored Berlin in a time "when the Nazis were breaking the thin crust of a dream world," this show imagines Berlin under siege by neo-Nazis in 1998. Director and choreographer Keith Grant said he was inspired to change the setting "by the current escalating popularity of racist, homophobic and anti-Semitic groups in the United States and all over the world." The production closes Feb. 24.

Professor John Ford is named dean of students

By Sam Segal

John L. Ford, professor and chairman of the Department of Human Service Studies, was named dean of students Feb. 12.

He is the first incumbent under a newly enhanced deanship, which calls for a tenured faculty member who can represent student interests to faculty and administration and can better integrate the classroom and extracurricular elements of student life.

Ford, a specialist in public health and health care administration, came to the College of Human Ecology in 1974. He has taught undergraduate and graduate courses on health care systems and has also held positions of responsibility in his department and college, in university programs and task forces, in local schools and with local and state governments.

"John is a fine teacher who loves working with students," Larry I. Palmer, vice president for academic programs and campus affairs, said in announcing the appointment.

"He also believes deeply that universities should be communities whose members serve each other and the world beyond," Palmer added. "Cornell is fortunate to have him in this vitally important role."

Palmer also expressed his "appreciation to Howard Kramer for his patience and dedication as interim dean."

Ford, who will assume his five-year term July 1, was chosen from among 55 applicants and nominees from across the campus and the country.

"To me, the most interesting part of the job is the chance to work closely with students and to help build a stronger sense of community," Ford said. He added that he will be available to students — in his office, on walks around campus and elsewhere.

Whether students are in fraternities and sororities, in residence halls or off campus, "I

want to increase the sense of dignity and mutual acceptance among students with different backgrounds," Ford said.

He also said he wants "to amplify the student voice on campus" and, in collaboration with faculty and other deans, "to forge significant improvements in academic advising across campus."

As he fulfills academic, university and public obligations between now and July 1, Ford said, he will also stay informed on issues that are or will become part of his responsibility as dean.

It was just over two years ago that the administration began reshaping the dean of

students position. At that time, Senior Vice President James E. Morley Jr. and then-Senior Provost Robert Barker accepted the chief recommendations of a committee headed by Dean David Lipsky of the School of Industrial and Labor Relations.

The committee, which had worked for a year, recommended that the new dean be a tenured Cornell faculty member or an outsider eligible for tenure.

Barker and Morley said that "in order to serve the needs of our students more effectively, the dean of students should report on the academic side of the institution and that

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Peter Morenus/University Photography

Professor John Ford (right), who will become dean of students on July 1, talks with junior Craig Hymowitz (left), president of the Cornell Republicans, and Ishmail Conway, director of student activities, at a forum to meet the new dean.

FCR voices support and concern on aid policy

By Sam Segal

Despite recession-based budget pressures and reduced government support, Cornell will seek its trustees' approval to keep need-blind admission and its current financial aid policy for the 1993-94 academic year.

Provost Malden C. Nesheim disclosed that intention at the Feb. 12 meeting of the Faculty Council of Representatives. At the same meeting, the FCR expressed concern that academic quality is threatened by the pressure for Cornell to replace financial aid dollars withdrawn by government.

Nesheim, who will seek the extension at the trustees' March meeting, stressed that it presupposed no sharp cutbacks in current levels of outside funds from government or private sources.

Given that condition, he said Cornell would hope to extend its financial aid policy beyond 1993-94 by the following means:

- Annual increases in budgeted financial aid would match increases in tuition.
- The university would aggressively seek to build endowment for financial aid, already one of five priority areas of the five-year, \$1.25 billion capital campaign.

- An anonymous gift of up to \$7.5 million would be available, over the next few years, to fill gaps between financial aid need and funds available through other means.

What would be extended is the policy that admits students regardless of their ability to pay and a policy that, for students with demonstrated financial need, offers some combination of loans, grants and work opportunities to help cover costs beyond what their families are able to pay.

"There's been a great deal of concern among trustees, faculty, students and the administration about whether we can afford to continue these policies," Nesheim said. "We want Cornell to remain accessible to all able students, but if financial aid keeps eating up an increasing *proportion* of the general-purpose budget, we could undermine the very quality programs that attract good students in the first place.

"This plan," he added, "holds things stable while giving us a respite during which we can seek a long-term solution free from the agonizing pressures of annual budget-making."

Those pressures were a concern behind the budget recommendations approved unanimously at the meeting, on recommendation of the FCR's Financial Policies Committee.

Those recommendations were:

- That long-term policy hold undergraduate tuition increases to annual increases in disposable income and that, for 1992-93, the increase not exceed 6 percent. (The board has approved a 6.5 percent increase for endowed tuition.)

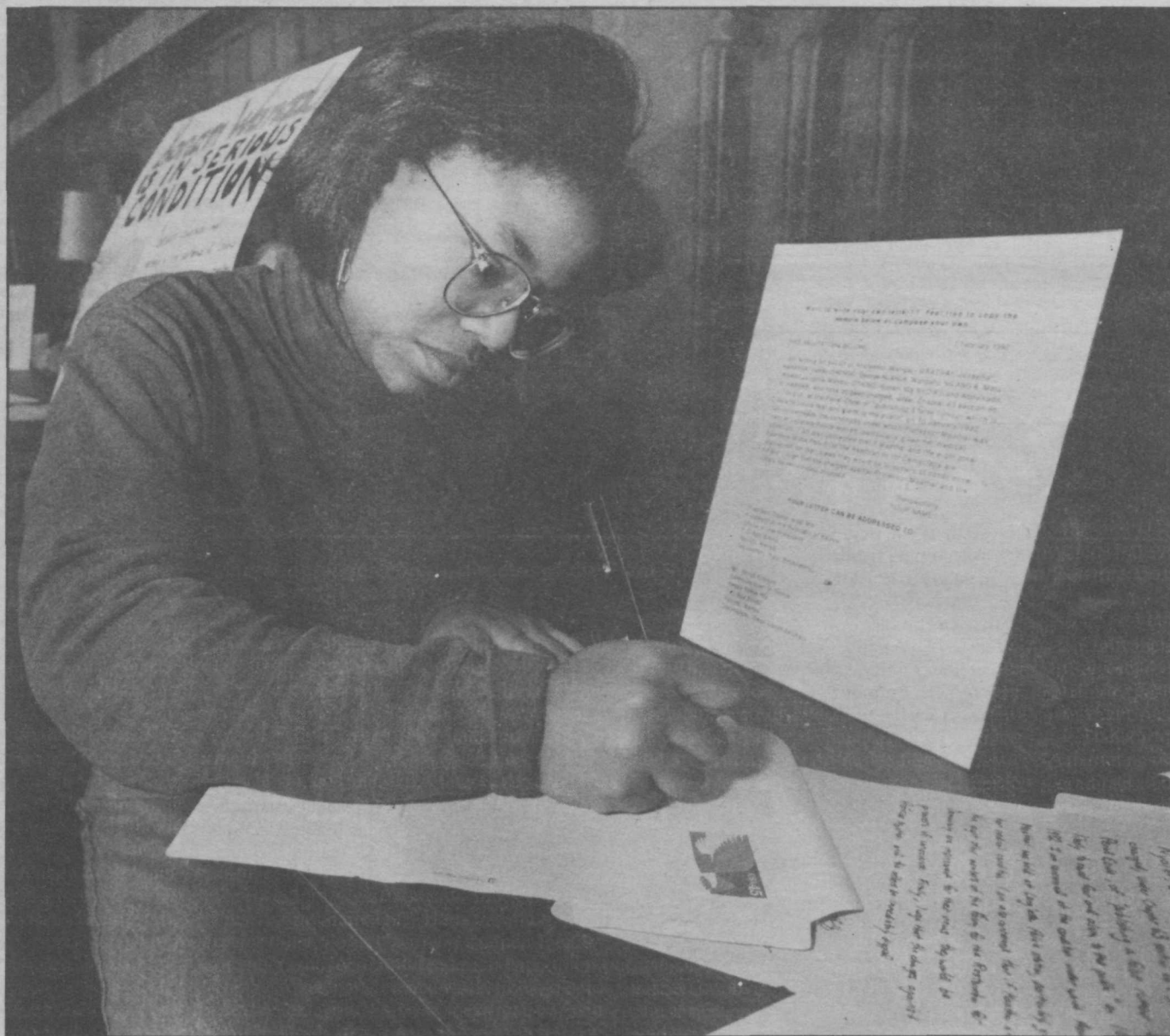
- That the financial aid proportion of the general-purpose budget be capped at this year's level of about 10 percent.

- That endowed-college faculty salaries be funded sufficiently to continue a "slow rise" against those of peer universities. (An earlier suggestion of an 8.5 percent pool was dropped because of the "economic realities" that have burdened the budget process, said physics Professor Donald Holcomb, who chaired the FCR committee.)

- To make possible the first three points, faculty and administrators "must be mobilized to maintain the quality of our educational and research program with controlled and in some cases reduced numbers of staff and faculty."

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Power of words



DeShawn Clayton, a senior in the School of Industrial and Labor Relations, writes a letter to protest the holding of political prisoners during a Feb. 7 write-a-thon held by the Cornell chapter of Amnesty International.

Peter Morenus/University Photography

BRIEFS

• **Missing sign:** Cornell Plantations is offering a \$500 reward for information leading to the arrest of the person or persons who removed one of Plantations' signs from Kienzle Overlook on Tower Road at the end of last semester. The 2-by-6-foot redwood sign was taken from evergreen plantings opposite the Cornell Dairy Bar. It had the words "Cornell Plantations" and the Plantations' tree logo carved on the front and is painted in shades of green and blue-grey. In the past, Plantations' signs have been returned as a result of information given to Cornell Public Safety. The theft of this sign is a criminal offense. Anyone with information about the theft or whereabouts of the sign is asked to call Public Safety at 255-1111.

• **Database:** A national database of faculty expertise, BEST-North America, can give faculty and staff access to expertise of faculty here and at other member institutions. In addition, information on the research and expertise of Cornell faculty is available to scholars and corporate members around the world. Later this spring, some 800 records on Cornell faculty will be available. Campus users can access the database through CUINFO or via a FileMaker database through the CIT public server. Call 255-4993 for more information.

• **Shoemobile:** The Shoemobile will be at the Life Safety Building, 201 Palm Road, east of The Orchards off Route 366, from 7:30 a.m. until noon and from 1 to 3 p.m. on Friday, Feb. 21. For more information, call Life Safety at 255-8200.

• **Director:** Challenge Industries, an agency for vocational rehabilitation and training of people with disabilities, has named Henrik N. Dullea, vice president for university relations, to a three-year term on its board of directors, and Noel Desch, associate director of the Materials Science Center, as an associate member, effective Feb. 26.

United Way effort falls short of goal

Cornell employees, who represent the largest work group in Tompkins County, contributed a record total \$504,000 toward the 1992 Tompkins County United Way Campaign, but still fell short of the \$525,000 goal set by university employees.

The county campaign also set a new record for total amount raised but fell short of its announced goal for the first time in memory. The county campaign raised a total of \$1.48 million toward a \$1.5 million goal.

The campaigns were victims of the recession, said Cornell's co-chairman, David Solomon, administrative associate in the Laboratory of Atomic and Solid State Physics.

He pointed out that while total participation among employees and retirees was down this year, the average gift per person increased. Last year a record total of 4,453 people gave \$501,566; this year, 4,295 people gave \$504,000.

College Bowl team wins in Boston

Cornell sent two teams to a College Bowl tournament last weekend at Boston University. One team finished first and the other finished third.

Cornell won the championship by defeating the Massachusetts Institute of Technology 300 to 120.

Sixteen teams competed in the tuneup for regional tournaments that will be held in two weeks. Cornell will compete in a tournament at Syracuse University Feb. 29 and 30.

The other schools competing in Boston included Brandeis, Brigham Young, Dartmouth, Harvard, Holy Cross, Massachusetts Institute of Technology, Princeton and Worcester Polytechnic Institute.

Competing for Cornell were Steve Wang, Steve Chapman, Steve Rapkin, Eric Rheel, George Anderson, Scott Blish, Tony Kayser and Bill Klimon. The coach is Ron Loomis, director of Unions and Activities.

Student charged in alcohol incident

A 19-year-old student faces charges for unlawfully providing alcohol to minors at a party held in Townhouse G last weekend.

Kristin J. Aymard was charged by Cayuga Heights Police with unlawfully dealing with a minor, a misdemeanor count. Aymard is a resident in a Townhouse G apartment in which liquor was allegedly served to minors at a party for which people were being charged \$1 admission.

The arrest was the result of a disturbance call to the townhouse at 12:45 a.m. Saturday (Feb. 15). According to Cayuga Heights Police Chief David Wall, officers responding to the call found two underage intoxicated youths in a verbal argument outside the building. While investigating, officers noticed a flyer advertising the party and went to the apartment, where they allegedly found 10 individuals under 21 drinking alcoholic beverages.

Ford continued from page 1

the functions of the dean's office should be more fully integrated with the academic life of the campus."

Last December, Palmer announced that the Office of Unions and Activities would become part of the new dean's office. And in announcing Ford's appointment, he said that the Reserve Officer Training Corps, Language House and Cornell United Religious Work would start reporting to the new dean and further restructuring will be considered.

Ford received a bachelor's degree in philosophy and psychology from Boston University. He holds master's degrees in social welfare administration and medical care administration and a Ph.D. in social work and sociology from the University of Michigan.

He has served on the College of Human Ecology's Affirmative Action Committee, the task force on working families, the Economic Development Committee and the board of Southside Community Center for the city of Ithaca.

CORNELL Chronicle

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Published 40 times a year, Cornell Chronicle is distributed free of charge to Cornell University faculty, students and staff by the University News Service. Mail subscriptions, \$20 for six months; \$38 per year. Make checks payable to Cornell Chronicle and send to Village Green, 840 Hanshaw Road, Ithaca, N.Y. 14850. Telephone (607) 255-4206. Second-Class Postage Rates paid at Ithaca, N.Y.

POSTMASTER: Send address changes to the Cornell Chronicle (ISSN 0747-4628), Cornell University, 840 Hanshaw Road, Ithaca, N.Y. 14850.

It is the policy of Cornell University actively to support equality of educational and employment opportunity. No person shall be denied admission to any educational program or activity or be denied employment on the basis of any legally prohibited discrimination involving, but not limited to, such factors as race, color, creed, religion, national or ethnic origin, sex, sexual orientation, age or handicap. The university is committed to the maintenance of affirmative-action programs that will assure the continuation of such equality of opportunity. Sexual harassment is an act of discrimination and, as such, will not be tolerated. Inquiries concerning the application of Title IX may be referred to Cornell's title IX (Coordinator of Women's Services) at the Office of Equal Opportunity, Cornell University, 234 Day Hall, Ithaca, N.Y. 14853-2801 (telephone 607 255-3976).

Cornell University is committed to assisting those persons with disabilities who have special needs. A brochure describing services for persons with disabilities may be obtained by writing to the Office of Equal Opportunity, Cornell University, 234 Day Hall, Ithaca, N.Y. 14853-2801. Other questions or requests for special assistance may also be directed to that office.

GRADUATE BULLETIN

Tax: International students with Cornell fellowships from which Cornell withheld tax will receive their Form 1042S by March 15. You need to have this form before filling your federal and state tax returns. A representative from the Internal Revenue Service will conduct a workshop and answer questions from students on Thursday, March 26, from 9 a.m. to noon and Monday, April 6, from 1:15 to 4:30 p.m. in the Anabel Taylor Hall Auditorium, second floor. If you have additional questions, contact the IRS toll-free at (800) 829-1040.

Commencement: To receive a May degree, the deadline for completing all requirements is May 15. Deadlines are earlier to have a diploma available for pickup following the commencement exercises (March 15) or to have one's name appear in the commencement program (April 3).

Course Changes: The last day for dropping courses and changing grade options is March 13. A \$10 late fee is charged for each approved change after this date. An ap-

proved petition is required to change credit hours or grading option after March 13. A \$10 late fee is charged for each approved change after this date. An approved petition is required to change credit hours or grading option after March 13. A course dropped after March 13 will appear on transcripts with a "W" (withdrawn). Courses may be dropped only through last day of classes.

Voting: Voting for student trustee and Assembly elections will be held March 3 and 4; graduate students may vote at the Big Red Barn from 11 a.m. to 2 p.m.; Willard Straight Hall from 10 a.m. to 7 p.m.; Trillium from 11 a.m. to 3 p.m.; or RPU and Noyes Dining from 5 to 8 p.m.

Summer support: Applications for summer assistantships, fellowships or summer tuition awards are available at graduate field offices. All financial documents must be filed in Graduate Fellowships and Financial Aid Office by March 2 to be eligible. Each field sets its own deadline for completed application.

Public Safety tests a new emergency 'blue light' phone

By Kenneth Williams

A new emergency phone that could supplement and improve the existing Blue Light phone system is being tested on campus by the Department of Public Safety.

The prototype phone, named "Code Blue," is located across from Statler Hall at the intersection of Hoy and Campus roads. It is mounted on a bright red, nine-foot-tall pole with the word "emergency" running up the side in large white letters. The pole is topped with Cornell's traditional glowing, high-intensity blue light, which is used by many colleges and universities nationwide to denote campus emergency phones.

"Altogether we've got about 220 Blue Light and emergency phones right now," said Public Safety Officer George Sutfin. "The old system works; it has proven itself many times, but if we can improve on it that's what we want to do."

The Blue Light system receives about 5,000 calls a year, added Sutfin.

"In the last two years, in two armed robberies that we had, the victims ran to Blue Light phones and called, and we made several arrests, the fastest of which was within five minutes of the call," he said. "I think the system deters a lot of crime. Our goal is to have the system set up so that if you're standing at one phone, you'll always be able to see another one."

When the user activates the prototype phone by pressing a red button about half-way up the pole, a powerful strobe light begins flashing and voice contact with a Public Safety dispatcher is instantly established through a speaker on the pole. The caller's location is displayed on a computer screen at Public Safety, where a dispatcher sends an officer to the scene.

Code Blue is made of materials that make

it resistant to damage from the elements and "so rugged that the average vandal would simply waste his time and energy trying to disable it," according to its manufacturer, News-Time Inc. of Wyoming, Mich.

Public Safety Officer Christopher O'Hara pointed out that four of the current emergency phones were disabled for a day two years ago when local high school students cut off and stole the telephone handsets.

"Every year the Blue Light phone by Dickson gets painted on Dragon Day. If we had a Code Blue up there it wouldn't be as much of a problem, because the new phones are graffiti-proof," O'Hara said.

"The new system has more light around it, and the button is even in braille," added Sutfin. "The strobe light on the new phone would probably scare off most criminals, while attracting the attention of witnesses at the same time."

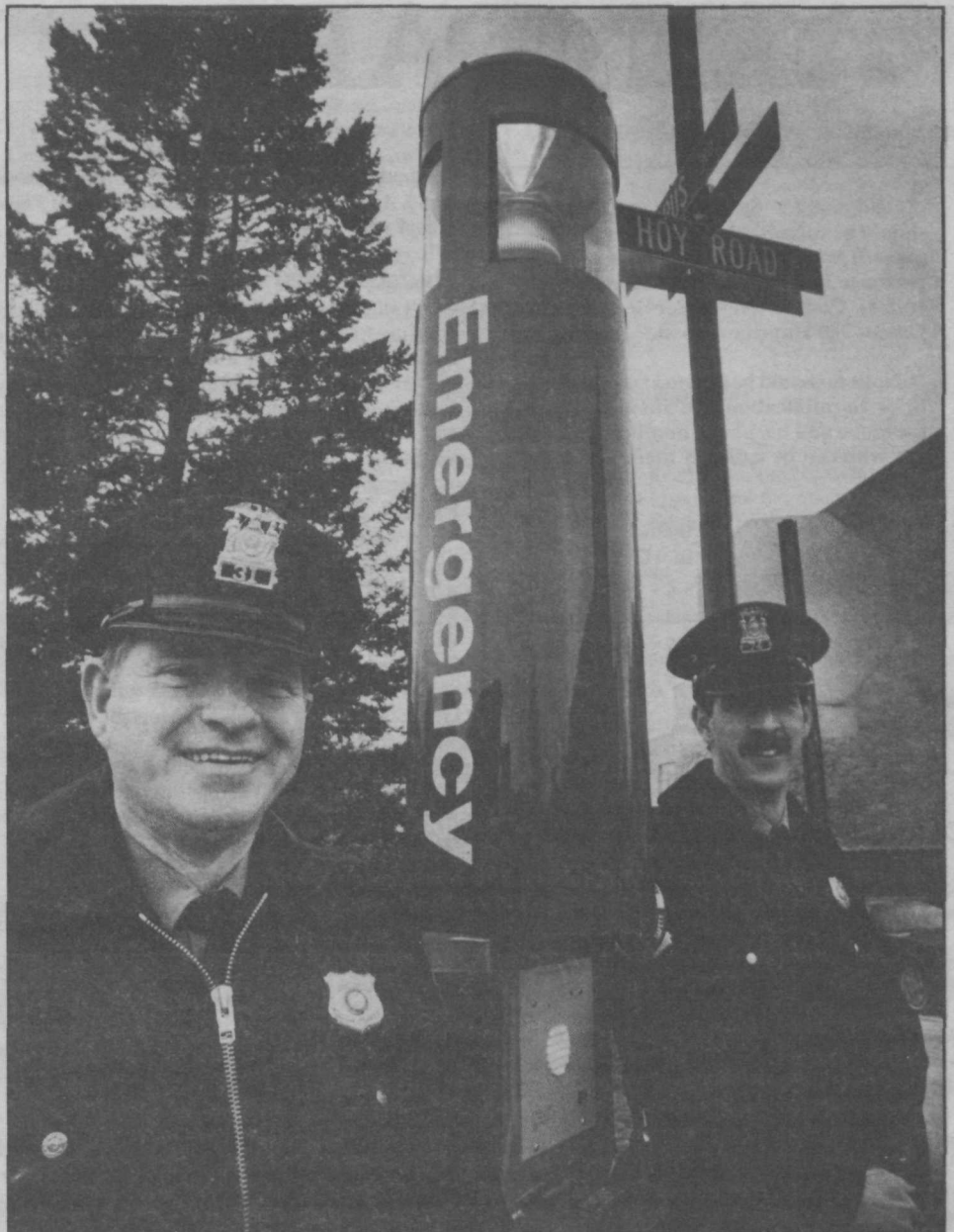
The Blue Light system is an ongoing project between Cornell Telecommunications Services and the Department of Public Safety. Funding for the system comes out of Cornell's Telecommunications Services budget.

"Eventually, we'd like to begin using the new phones to replace the older units," said Patricia Searles, director of Telecommunications Services. "We're fairly early on in the process of assessing how well the unit works. I'd welcome any comments on the new system."

The Code Blue prototype is on loan to Cornell until the beginning of March, according to Sutfin. Each phone sells for \$2,700 plus installation costs.

"We want both positive and negative feedback to get an idea of what people think about the prototype," Sutfin said.

Kenneth Williams is a student in the College of Agriculture and Life Sciences.



Peter Morenus/University Photography

Department of Public Safety Officers George Sutfin and Christopher O'Hara stand with a new emergency phone being tested by campus officials.

State reduces Extension cut

By Matthew Shulman

Gov. Mario Cuomo's office announced Feb. 14 in Albany the restoration of \$300,000 in proposed 1992-93 state budget support for Cornell Cooperative Extension's educational programs in 57 counties of New York. As a result, state funding for extension will drop by 5 percent instead of by 15 percent for the fiscal year beginning April 1.

"We are grateful that Governor Cuomo places a high priority on Cooperative Extension's role in helping New Yorkers apply research findings to solve local problems," said Cornell Cooperative Extension Director Lucinda A. Noble.

Cornell Cooperative Extension's research focus and educational programs are concentrated in six priority areas, Noble said. They include: enhancing the environment; increasing agricultural profitability; individual, family and community resources; nutrition, health and safety; youth and families at risk; and economic development.

For a relatively modest amount of money, extension programming has a tremendous effect on the lives of individuals, families and communities throughout New York, Noble said. In addition to state support, Cooperative Extension associations receive funding from the federal government and their local counties.

Every year, more than 7 million New Yorkers participate directly in Cooperative Extension programs, request help from extension employees or receive training or counseling from extension volunteers.

Noble also expressed appreciation to New York State Assembly and Senate Agriculture Committee Chairmen William L. Parment (D-Jamestown) and John R. Kuhl Jr. (R-C, Hammondsport) for their cooperation with the Executive Chamber in achieving the restoration.

Center serves thousands of student volunteers

To answer student demand and to better serve the Ithaca community, Cornell has established a unified Public Service Center that brings together existing programs and promises to add new volunteer opportunities.

With three-year funding of \$240,000 from the President's Fund for Educational Initiatives, the university's Public Service Center has been set up in Barnes Hall, next to related services of the Dean of Students Office.

"For students who want to volunteer, we have a kind of one-stop shopping," says Larry I. Palmer, vice president for academic programs and campus affairs.

"It supports our wider effort to make undergraduate education more than two disjointed spheres of the classroom and extra-curricular life."

A student can now walk into Room 103 of Barnes Hall and either ask to see a computer generated list of volunteer possibilities or can mention a specific area of interest and be guided from there. And off-campus agencies or projects should similarly benefit from the new centralization of Cornell resources and information, Palmer said.

The center, with a new, full-time coordinator and two part-time staff members, also welcomes faculty and other employees.

Palmer said that CIVITAS (Cornell Ithaca

Volunteers in Training and Service), a 25-year-old campus volunteer program, had moved in from Anabel Taylor Hall and a staff member from the Cornell Tradition program had moved from Day Hall.

The newcomers join the assistant dean of students for fraternities and sororities, along with training staff members whose functions will now be focused on support for student volunteers.

The university funding reflects President Frank H.T. Rhodes' belief that service to others is a valid and important part of undergraduate education.

"The opportunities for discovery and intellectual enrichment that Cornell students gain in the classroom, studio and laboratory contribute immeasurably to their success in later life," Rhodes said in approving special funding for the center.

"But life's fullest and deepest satisfaction comes from serving others, and Cornell ought also to offer students a chance to experience that."

Cornell students, like those at many other universities, have already demonstrated that they, too, give service high priority.

In the 1970s, about 150 students a semester came to CIVITAS seeking volunteer opportunities; the number reached 300 in the

early 1980s and is 500 now. Another 570 students who get special scholarship support as Cornell Tradition Fellows all put in volunteer service along with holding paying jobs.

Hundreds of other students volunteer through fraternity or sorority projects or make direct contact with agencies in the Ithaca area or beyond, says center coordinator Suzanne Motheral, who for 11 years before coming to Cornell last fall directed a similar program for Harvard University and Radcliffe College students.

She said the chief volunteer interest of Cornell student is youth programs but that their efforts range from providing meals to the poor to environmental cleanup jobs, from one-time assignments to regular service, from local work — by far the most common — to post-hurricane relief in South Carolina.

A small sampling of organizations inviting volunteers includes Alpha Phi Omega (a co-educational service fraternity), Best Buddies of America, Chinese Kids Club, Cornell University Emergency Medical Service, Eco-Justice Project and Network, Habitat for Humanity, Nutritionists Organized Against Hunger, Peer Education Program, Prison Project, Support Services to Students with Disabilities, and Volunteers for Youth.

Student views to be sought on housing plan

By Sam Segal

Larry I. Palmer, vice president for academic programs and campus affairs, announced Wednesday a timetable for broad campus review of a forthcoming report on freshman room assignments.

The preliminary report of the Task Force on Freshman Housing Assignment recommends that freshman room-assignment practices should seek to ensure a greater mix of racial and ethnic groups throughout Cornell residence halls.

Palmer announced two means for incorporating student opinion into the review.

Trustee Mary Falvey Fuller, who chairs the task force, will serve as host for a March 5 campus meeting inviting student comments on the preliminary report. (Time and place will be announced next week.)

After considering the oral and written comments submitted on the preliminary ver-

sion, the task force will issue a final report by mid-March.

A Student Response Task Force, whose 10 to 15 members will be appointed by student trustee Elise Rosenberg, will then consider that report in detail.

Palmer said he expected that the Rosenberg panel's formal response would take about a month.

Palmer would then lead a final administration review.

The Task Force on Freshman Housing Assignment was appointed by Palmer in December after expressions of concern by trustees and Cornell Council members that too much student choice in freshman room assignments had led to self-separation by racial and ethnic groups.

Besides Fuller, the task force includes three Council members — Richard Jahn, Charles James and Linda B. Miller — student trustee Linda Richichi, Student Assembly

member Pankaj Talwar and Anne K. Scott of the Department of Residence Life.

If the review process results in recommendations for substantial changes, Palmer indicated that it is likely that implementation would be planned for freshmen entering in the fall of 1993.

He noted there could be financial and programmatic implications that will need to be examined, that newly named Dean of Students John L. Ford should have a chance to provide his advice in the review process, and that practical questions such as current deadlines for advising next year's freshmen of room selection require significant lead time.

"If there are changes to be made and we implement them for 1993-94," Palmer added, "then we'll have the time not only to think them through and fully inform those affected but also to shape residence hall programs and activities in accordance with the revisions."

CALENDAR

All items for the Chronicle Calendar should be submitted (typewritten, double spaced) by campus mail, U.S. mail or in person to Joanne Hanavan, Chronicle Calendar, Cornell News Service, Village Green, 840 Hanshaw Road.

Notices should be sent to arrive 10 days prior to publication and should include the name and telephone number of a person who can be called if there are questions.

Notices should also include the sub-heading of the calendar in which the item should appear.

DANCE

Cornell International Folkdancers

All events are open to the Cornell Community and general public. Admission is free, unless stated otherwise. For further information, call 257-7711.

Advanced Balkan dancing: teaching, 6:30 p.m. and 7:30 p.m.; request dancing, 8:30 p.m., Feb. 23, North Room, Willard Straight Hall.

Global Dancing, co-sponsored by the Cornell Wellness Program, tango, Feb. 25; teaching, 7:30 to 9 p.m.; open dancing, 9 to 10 p.m., Dance Studio, Helen Newman Hall.

Israeli Folkdancing

Israeli folkdancing, teaching and open dancing, Thursdays, 8 p.m., Edwards Room, Anabel Taylor Hall.

Jitterbug Classes

Jitterbug classes every Wednesday (ongoing) in the Edwards Room, Anabel Taylor Hall. Beginners, 7:30 p.m. (no partner needed: please call to register); intermediate, 8:45 p.m. (no registration required). For more information call 273-0126 (leave message).

EXHIBITS

Johnson Art Museum

The Herbert F. Johnson Museum of Art, on the corner of University and Central avenues, is open Tuesday through Sunday from 10 a.m. to 5 p.m. Admission is free. Telephone: 255-6464. Visitors to the museum can now park behind Tjaden and Sibley Halls on campus when the museum-restricted areas on Central Avenue are filled. At the East Avenue traffic booth, drivers can purchase a two-hour permit for \$1, entitling them to park behind Sibley or Tjaden halls, the parking lots visible on University Avenue just past the museum.

"Electric Spaces: New Installations in Audio and Video Art," an exhibition consisting of the video installation "Brooklyn Bridge" by Joan Jonas and the audio installation "Sound Engine" by Bill and Mary Buchen, through March 8.

A member of the museum's education department will conduct the thematic tour "The Medieval World," at noon on Feb. 27.

"Animals in the Art Museum: Creatures in Captivity," an eye opener workshop, introducing youngsters to the world of animals depicted by artists throughout time that are represented in the museum's collection, Feb. 29 and March 7. Workshops for children ages 5 and 6 will be held from 10 a.m. to noon. Registration deadline is Feb. 21.

Sibley Fine Arts Library

"One-Of-A-Kind-Books" by John Wood will be on display at the Sibley Fine Arts Library through Feb. 29. Wood, professor emeritus in photography and printmaking at New York State College of Art and Design, Alfred, has work in the collections of several museums, including the Museum of Modern Art in San Francisco and the National Gallery of Canada in Ottawa. The exhibit is curated by Laurie Sieverts Snyder, visiting lecturer in photography and artist's books in the Fine Arts Department.

FILMS

Films listed are sponsored by Cornell Cinema unless otherwise noted and are open to the public. All films are \$4.50 (\$4 for students) EXCEPT Monday Night Film Club (9:30 p.m.), \$3 for all; Thursdays, \$3.50 for all; Saturday Ithakid Film

Festival, \$2 and \$1.50 under 12; Sunday Matinees, \$3.50. All films are held in Willard Straight Theatre except where noted.

Thursday, 2/20

"Little Man Tate" (1991), directed by Jodie Foster with Jodie Foster, Dianne Wiest, Adam Hann-Byrd and Harry Connick Jr., 7:40 p.m.

"House Party 2" (1991), directed by McHenry & Jackson with Christopher Reid, Christopher Martin and Tisha Campbell, co-sponsored with Simbe Wachanga, 10 p.m.

Friday, 2/21

"Personal Best" (1982), directed by Robert Towne with Mariel Hemingway and Patrice Donnelly, 7 p.m., Uris.

"Shadows" (1959), directed by John Cassavetes with Ben Carruthers, Lelia Goldoni and Hugh Hurd, 7:15 p.m.

"The Wages of Fear" (1953), directed by Henri-Georges Clouzot with Yves Montand and Charles Vanel, 9:20 p.m.

"House Party 2," 9:45 p.m., Uris.

"The Evil Dead" (1982), directed by Sam Raimi with Bruce Campbell, Ellen Sandweiss and Betsy Baker, midnight, Uris.

Saturday, 2/22

"My Sky, My Home" (1991), directed by Slamet Rahardjo Djarot, 2 p.m.

"Faces" (1968), directed by John Cassavetes with Gena Rowlands and Seymour Cassel, 7 p.m.

"Downhill Racer" (1969), directed by Michael Ritchie with Robert Redford, Gene Hackman and Camilla Sparv, 7:15 p.m., Uris.

"Little Man Tate," 9:40 p.m., Uris.

"The Wages of Fear," 9:45 p.m.

"Evil Dead 2: Dead by Dawn" (1987), directed by Sam Raimi with Bruce Campbell, Sarah Berry, Dan Hicks, midnight, Uris.

Sunday, 2/23

"Black Maria Film and Video Festival: Part One" (1991), presented by festival director John Columbus, 2 p.m., Johnson Museum. Free.

"Downhill Racer," 4:30 p.m.

"The Evil Dead," 8 p.m.

"Korczak" (1990), directed by Andrzej Wajda with Wojtek Pzoniak, Ewa Kalkowska and Piotr Kozlowski, 7:30 p.m., Uris. Free.

Monday, 2/24

"The Wages of Fear," 6:30 p.m.

"Born Yesterday" (1950), directed by George Cukor with Judy Holliday and William Holden, 9:30 p.m.

Tuesday, 2/25

"Little Man Tate," 7:45 p.m.

"Evil Dead 2: Dead by Dawn," 10 p.m.

Wednesday, 2/26

"Sex, Drugs, Rock 'n' Roll" (1991), directed by John McNaughton with Eric Bogosian, 7:45 p.m.

"Vampires in Havana" (1985), directed by Juan Padron, 8 p.m., Uris. Free.

"Monty Python and the Holy Grail" (1974), directed by Terry Gilliam and Terry Jones with Graham Chapman, John Cleese, Eric Idle and Michael Palin, 10 p.m.

Thursday, 2/27

"Kembang Kertas" (1985), directed by Slamet Raharjo, sponsored by Southeast Asia Program, 4 p.m. Free.

"Carmen Jones" (1954), directed by Otto Preminger with Dorothy Dandridge, Harry Belafonte and Joe Adams, 7 p.m.

"Die Hard" (1988), directed by John McTieman with Bruce Willis and Alan Rickman, 10 p.m.

LECTURES

A.D. White Professors-at-Large

"Art for GOODness Sake — More than Bread Alone for Community Development," Jack Delano, artist and A.D. White Professor-at-Large, Feb. 20, 4:30 p.m., Alumni Auditorium, Kennedy Hall.

Advisory Committee for the Status of Women

"Work and Family Issues at Cornell," Marilee Bell, working families program, Feb. 25, noon to 1 p.m., Biotechnology Building Lounge.

Archaeology

"Vucedol: An Early Bronze Age Site in Middle Europe and its Indo-European Connections," Aleksandar Durman, University Zagreb, Feb. 20, 8 p.m., 22 Goldwin Smith Hall.

East Asia Program

"Facing the Challenges of the 1990s: Social Sci-

ence Research at Tianjin," Wang Hui, president, Tianjin Academy of Social Sciences, Feb. 21, 12:15 p.m., G08 Uris Hall.

"Buddhist Concepts of Time and History," Jan Nattier, Stanford University, Feb. 27, 4:30 p.m., 374 Rockefeller Hall.

Gannett Health Center

"Beyond the Facts: Promoting Sexual Health in Campus Communities," Richard Kelling, University of Virginia, Feb. 25, 12:30 to 5 p.m., Room 120 ILR Conference Center.

Southeast Asia Program

Title to be announced, Christopher Lamb, Ministry Congressional Liaison, Australian Embassy, Feb. 20, 12:20 p.m. 300 Rice Hall.

Title to be announced, Peter Zinoman, SEAP grad student, history, Feb. 27, 12:20 p.m., 300 Rice Hall.

Soviet and East European Studies Program

"Russian-Jewish Literature and Identity," Alice Stone Nakhimovsky, Colgate University, Feb. 24, 12:15 p.m., G-08 Uris Hall.

Theory Center

"Large Computational Studies of Large H₂O Clusters," Victoria Buch, University of Illinois, Feb. 25, 11:15 a.m., 119 Baker Laboratory.

Western Societies Program

"Toward a World Welfare State? Perspectives for Transnational Social Policy," Abram de Swann, Luigi Einaudi Professor and University of Amsterdam, The Netherlands, co-sponsored by government, Feb. 20, 4:30 p.m., A.D. White House.

"Germany in Spain: The Wartime Writings of Miguel de Unamuno," Steven Bileca, history, Feb. 21, 12:15 p.m., 153 Uris Hall.

"The Changing French Collective Memory: The Case of Vichy," Henry Rousso, Institut d'Histoire du Temps Present, Feb. 25, 4:30 p.m., G08 Uris Hall.

MUSIC

Department of Music

Soprano Judith Kellock and pianist Edward Murray will perform vocal music from the 16th to the 20th century on Feb. 22 at 8:15 p.m. in Barnes Hall. Featured compositions are Schumann's "Gedichte der Konigin Maria Stuart" (the poems describing her departure from France, birth of her son, a letter to Queen Elizabeth I, departure from the world, and a prayer); Taverner's "Lament of a Queen for her Dead Husband," "Laster Prayer of Mary Queen of Scots" and "Velitchanie," Mother of God falling asleep. Judith Weir's "King Harald's Saga" is a grand opera in three acts for unaccompanied solo soprano singing, performing eight roles based on the saga "Heimskringla" by Snorri Sturlson. The concert will conclude with songs by Faure, interwoven with his preludes in A Major and D Major. Both artist are on the music faculty here and have performed and recorded in the United States.

Pianist Michael Salmirs will perform works by Mozart, Beethoven, Schubert and Liszt on Feb. 25, 8:15 p.m., Barnes Hall. The concert is free. For this concert, Salmirs selected Mozart's Rondo in A Minor; Beethoven's Sonata No. 32 in C Minor, opus 111; Schubert's Four Impromptus, opus 90; and Liszt's Mephisto Waltz.

Students of Zvi Meniker will give a piano recital on Feb. 25, 8:15 p.m., Barnes Hall.

Bound for Glory

Castlebay, an ensemble playing music of Scotland and New England, featuring the celtic harp, will perform in three lively sets on Feb. 23 at 8:30, 9:30 and 10:30 p.m. in the Commons Coffeehouse in Anabel Taylor Hall. Bound for Glory can also be heard on Sundays from 8 to 11 p.m. on WVBR-FM, 93.5.

RELIGION

Sage Chapel

Allen D. MacNeill, lecturer, biology, will deliver the sermon on Feb. 23. Service begins at 11 a.m. Music by the Sage Chapel choir, directed by John Hsu, acting choir master, and Zvi Meniker, organist. Sage is a non-sectarian chapel that fosters dialogue and exploration with and among the major faith traditions.

Catholic

Masses: Saturdays, 5 p.m.; Sundays, 9:30 a.m., 11 a.m., 5 p.m., Anabel Taylor Auditorium. Daily masses, Monday through Friday, 12:20 p.m., Anabel Taylor Hall. Sacrament of Reconciliation by appointment, G-22 Anabel Taylor Hall.

Christian Science

Testimony meeting on Thursdays, 7 p.m., Founders Room, Anabel Taylor Hall.

Episcopal (Anglican)

Sundays, worship and Eucharist, 9:30 a.m., Gurdon Brewster, chaplain, Anabel Taylor Chapel.

Friends (Quakers)

Sundays at 9:45 a.m. adult discussion; 11 meeting for worship, Edwards Room, Anabel Taylor Hall.

Jewish

Morning Minyan at Young Israel, 106 Ave. Call 272-5810.

Shabbat Services: Friday: Reform, 5:30 p.m., Chapel, Anabel Taylor Hall; Conservative/Egalitarian, 5:30 p.m., Founders Room, Anabel Taylor Hall; Saturday: Orthodox, 9:15 a.m., Edwards Room, Anabel Taylor Hall; Conservative/Egalitarian, a.m., Founders Room, Anabel Taylor Hall. Young Israel (call 272-5810 for time).

Korean Church

Sundays, 1 p.m., Anabel Taylor Chapel.

Muslim

Friday prayers, 1 p.m., Founders and Edwards Rooms, Anabel Taylor Hall. Zuhur prayer, 1 p.m., 218 Anabel Taylor Hall. Weekly group discussion classes, 11:30 a.m. and 12:30 p.m., 218 Anabel Taylor Hall.

Protestant Cooperative Ministry

Sundays, worship at 11 a.m., Anabel Taylor Chapel, Rev. Barbara Heck. Tuesdays, Taize Prayer at 5:30 p.m., Anabel Taylor Chapel. Thursday Bible study, 4:30 p.m., G7 Anabel Taylor Hall. Fridays, celebration, 5:30 to 8 p.m., 401 Thurston Ave.

Satya Sai Baba

Group meets Sundays. For information on time and place, call 273-4261 or 533-7172.

Seventh-Day Adventist

Worship, Saturday, 9:30 a.m., Seventh-Day Adventist Church, 1219 Trumansburg Road.

Southern Baptist

Richard Foster's "Celebration of Discipleship: Path to Spiritual Growth," Thursday evening, 8:30 p.m., 316 Anabel Taylor Hall.

Zen Buddhism

Zazen meditation every Tuesday at 7 p.m., Thursday at 5:15 p.m.; beginner's instruction Thursday at 4:30 p.m. in Anabel Taylor Chapel.

SEMINARS

Africana Studies and Research Center

"The Challenges of Africana Studies as a Discipline: Student Perspectives," Lesa Carter, Deborah Hill, Brian Sales and Winston Willis, Africana graduate students, Feb. 25, noon, Hoyt Fuller Room, 310 Tripphammer Road.

Applied Mathematics

"Models of Chagas' Disease: Population Dynamics and Parameter Estimation," Jorge Velazquez Hernandez, plant breeding and biometry, Feb. 25, 4 p.m., 165 Olin Hall.

Astronomy & Space Sciences

"Unification of Radio-Loud Active Galaxies," Megan Urry, Space Telescope Science Institute, Feb. 20, 4:30 p.m., 105 Space Sciences Building. "The Evolution of Disk Galaxies," Rosalyn Wyse, Johns Hopkins University, Feb. 27, 4:30 p.m., 105 Space Sciences Building.

Biochemistry

"Cell Biology and Circadian Control of Bioluminescence in the Dinoflagellate Gonyaulax Polyedra," Woodland Hastings, Harvard University, Feb. 21, 4 p.m., Large Conference Room, Biotechnology Building.

Biological Sciences

"MCM1: A versatile transcriptional regulator and DNA replication initiation factor of yeast," Chantal Christ, molecular and cell biology, Feb. 25, 12:20 p.m., Small Seminar Room, Ground Floor, Biotechnology Building.

Biology

"Molecular Genetic and Mutational Analysis of the Nervous System," Alexandra L. Joyner, Mount Sinai Hospital and University of Toronto, Feb. 24, 4 p.m., Seminar Room, G-1 Biotechnology Building.

"Transcriptional Regulation of Nicotinic Acetylcholine Receptors by the Myo-D Gene Family during Muscle Innervation," Andres Buonanno, National Institute of Child Health & Human Development, Feb. 27, 12:20 p.m., Morison Seminar Room, Mudd/Corson Hall.

Boyce Thompson Institute

"Protein Phosphorylation in Growth Control and the Cell Cycle," Tony Hunter, Salk Institute

Biological Studies, Feb. 26, 4 p.m., Large Conference Room, Biotechnology Building.

CaRDI (Community & Rural Development Institute)

"St. Lawrence Wildlife Refuge — Conflict & Alternatives," David Kay, agricultural economics and Tommy Brown, natural resources, co-sponsored by Western Societies Program, Feb. 20, 12:15 p.m., 250 Caldwell Hall.

Chemical Engineering

"Dynamic Simulations of Flows of Bubbly Liquids," Ashok Sangani, Syracuse University, Feb. 25, 4:15 p.m., Olin Hall.

Chemistry

"Weakly Bound Molecular Complexes: A Window On Potential Energy Surfaces and Vibrational Dynamics," Roger Miller, University of North Carolina, Chapel Hill, Feb. 20, 4:40 p.m., 119 Baker Laboratory.

"Transition Metal-Mediated Transformations of Organosilanes," Don Tilley, University of California, San Diego, Feb. 24, 4:40 p.m., 119 Baker Laboratory.

"Large Computational Studies of Large H2O Clusters," Victoria Buch, University of Illinois, Computational chemistry and theory center seminar, Feb. 25, 11:15 a.m., 119 Baker Laboratory.

"Femtosecond Wave Packet Spectroscopy: Interference and Chemical Dynamics," Graham Fleming, University of Chicago, Feb. 27, 4:40 p.m., 119 Baker Laboratory.

Entomology

"Dynamics of Panonychus ulmi and Typhlodromus pyri: Factors Contributing to Persistence," Jan Nyrop, entomology, New York State Agricultural Experiment Station, Feb. 20, 4 p.m., Morison Seminar Room, Corson/Mudd Hall.

"Genetic Constraints and the Phylogeny of Insect-Plant Associations," Doug Futuyma, SUNY-Stony Brook, Feb. 27, 4 p.m., Morison Seminar Room, Corson/Mudd Hall.

Environmental Toxicology

"Sympathetic Nervous System Modulation of Immunity: Implications for Immunoregulation and Immunotoxicology," Bruce Fuchs, Medical College of Virginia Richmond, Feb. 21, 12:30 to 1:10 p.m., Room 135 Emerson Hall.

Floriculture & Ornamental Horticulture

"Propagation, Culture and Flowering Physiology of Pleione Formosana, Chin C. Chu, grad student, Feb. 20, 12:15 p.m., 404 Plant Science Building.

Food Science & Technology

"Processing Food Products in Spouted Bed Systems," Morris H. Morgan III, Rensselaer Polytechnic Institute, Feb. 25, 4 p.m., 204 Stocking Hall.

Fruit & Vegetable Science

"Weed Dynamics in a Reduced-Tillage Cabbage System," Ted Blomgren, graduate students, Feb. 20, 4:30 p.m., 404 Plant Science Building.

"Vegetable Extension in the Capital District: More

International

"Aids in Africa: The Demographic and Economic Impact," Susan Hunter, Makerere University, Uganda, sponsored by the Cornell International Institute of Food, Agriculture and Development; the Population Development Program; and the Institute for African Development, Feb. 26, 4 p.m., Room 135 Emerson Hall.

International Studies in Planning

"Reflections on Burma, 1988," Christopher Lam, Ministry Congressional Liaison, Australian Embassy, sponsored by Southeast Asia Program, Feb. 20, 12:20 p.m., 300 Rice Hall.

"Assimilation from Babylon to Brooklyn," Barry Strauss, history, sponsored by Peace Studies Program, Feb. 20, 12:15 p.m., G08 Uris.

"Participatory Action Research," Davydd Greenwood, anthropology and director, Einaudi Center, Feb. 21, 12:15 p.m., 115 Tjaden Hall.

Materials Science and Engineering

"Phase Transformation in ion-implanted amorphous silicon," C. Hayzelden, Harvard, Feb. 20, 4:30 p.m., 140 Bard Hall.

"Time-Resolved X-ray Scattering Studies of Epitaxial Growth," Paul Fuoss, AT&T Bell Labs, Feb. 27, 4:30 p.m., Bard Hall.

Mechanical & Aerospace Engineering

"Recent Developments in the Computation of Hypersonic Flows," Graham Candler, North Carolina State University, Feb. 26, 4:30 p.m., 111 Upson.

Microbiology, Immunology & Parasitology

"Canine Lyme Borreliosis: Understanding Our Limitations," Russell T. Greene, Institute for Bacteriology and Immunology, Giessen, Germany, Feb. 24, 12:15 p.m., G-3 Veterinary Research Tower.

Natural Resources

"Research Issues for Managing Aquatic Weeds: Exotic Fish, Sport Fish, and Herbicides," Mark Bain, natural resources, Feb. 20, 3:35 p.m., 304 Fernow Hall.

"Metabolism and Trophic Transfer of Polycyclic Aromatic Hydrocarbons in Marine Benthic Organisms," Ann McElroy, NY Sea Grant Institute, Associated Marine Sciences Center, Stony Brook University, Feb. 25, 12:20 to 1:10 p.m., 304 Fernow Hall.

Nutrition/International Nutrition

"Growth Monitoring in India — Myth or Panacea for Reducing Childhood Malnutrition," Sabu George, nutritional sciences, Feb. 27, 12:15 p.m., Flora Rose Room, 200 Savage Hall.

Operations Research & Industrial Engineering

"Effective Change in the Manufacturing and Service Environments," Gregory A. Rubin, Senn-Delaney Consultants, Feb. 20, 4:30 p.m., 155 Olin Hall.

"Improving Manufacturing Competitiveness," William W. Kingston, WK Systems, Feb. 27, 4:30 p.m., 155 Olin Hall.

Ornithology

"Elephants: Who Are They, What Lies Ahead, and Who Decides?" Katy Payne, Laboratory of Ornithology, 7:45 p.m., Laboratory of Ornithology, 159 Sapsucker Woods Road.

Physiology & Anatomy

"The Neurobiological Cornucopia — Many Motor Patterns from One Neural Network," Ronald Harris-Warrick, neurobiology and behavior, Feb. 25, 4:15 p.m., G-3 Vet Research Tower.

Plant Biology

"Phenotypic Effects of Two Genes Controlling Nodulation in Peas," Carol Markwei, Boyce Thompson Institute, Feb. 21, 11:15 a.m., 404 Plant Science Building.

Plant Breeding & Biometry

"Improvement of Crop Responses to Abiotic Environmental Stresses," Tim Setter, soil, crop & atmospheric sciences, Feb. 25, 12:20 p.m., 135 Emerson Hall.

Plant Pathology

"Antagonism of Insect-Pathogenic Nematodes by the Fungus Hirsutella rhossillensis," Patricia Timper, Feb. 25, 4:30 p.m., 404 Plant Science Building.

"The Strange Case of the Satellite RNAs of Turnip Crinkle Virus," Candace Collmer, Wells College, Feb. 21, 11 a.m., A133 Barton Laboratory, New York State Agricultural Experiment Station, Geneva.

Psychology

"What Does Neuropsychology Have to Say About the Function of Consciousness," Ned Block, Massachusetts Institute of Technology, Feb. 21, 3:30 p.m., 204 Uris Hall.

Science & Technology Studies

"The Two Faces of Quantum Logic," Jon Jarrett, philosophy, Feb. 24, 4:30 p.m., 609 Clark Hall.

Society for the Humanities

"Why Were Female Prostitutes and Male Homosexuals Linked in the Early Twentieth Century?" George Chauncey, University of Chicago, sponsored

by Lesbian, Bisexual & Gay Studies Program and the Society for the Humanities, Feb. 24, 4:30 p.m., Hollis E. Cornell Auditorium, Goldwin Smith Hall.

Soil, Crop & Atmospheric Sciences

"Characterizing the Rate of Change of Soil Structure Under Different Cropping Systems," Bev Kay, University of Guelph, Canada, Feb. 25, 4 p.m., 135 Emerson Hall.

Statistics

Title to be announced, Christian Robert, Université Paris, Feb. 26, 3:30 p.m., 100 Caldwell Hall.

Textiles & Apparel

"Applying Fiber Science to Consumer Products," Richard Malcolm, Envirogear, Inc., Feb. 20, 12:20 p.m., 317 Martha Van Rensselaer Hall.

"Apparel Approaches to Patient Safety and Autonomy in a Restrain-Free Nursing Home," Karl Pillemer, Feb. 27, 12:20 p.m., 317 Martha Van Rensselaer Hall

SPORTS

(Home games only)

Thursday, 2/20

Wrestling, Syracuse, 7:30 p.m.

Friday, Feb. 21

Men's Basketball, Yale, 6:30 p.m.

Men's Hockey, RPI, 7:30 p.m.

Saturday, Feb. 22

Men's Track, Kane Invitational, 11:00 a.m.

Women's Track, Kane Invitational, 11:00 p.m.

Men's Jr. Varsity Basketball, SUNY-Binghamton, 3 p.m.

Men's Hockey, Union, 4 p.m.

Men's Basketball, Brown, 7:30 p.m.

MISC.

CUSLAR

Meetings, Mondays, 5:15 p.m., Commons Coffeehouse, Anabel Taylor Hall. For more information call 255-7293.

Learning Skills Center

Learning from lecture workshop, Feb. 24, 4:30 p.m., 237 Sage Hall; Rapid reading workshop, Feb. 26, 4:30 p.m., 237 Sage Hall. Study survival skills walk-in service; free help with study problems, Tuesday and Thursday from 3 to 4:30 p.m., 235 Sage Hall.

Noontime Fitness/Aerobics

Classes meet Monday through Fridays, 12:05 to 12:50 p.m. in the Alberding Field House (\$40 per semester). Call 255-1510 for information.

Personal Education Workshop

Workshop topics include assertiveness, building self-esteem; building satisfying relationships; gay/bisexual, a men's support group; stress management; women, food and self-esteem; lesbian/bisexual, a women's support group; life planning and self concept; issues of sexual identity; overcoming writer's block for graduate students. All groups are free and confidential. For information or to sign up, call 255-3608 or stop by 103 Barnes Hall.

Plantations

"Introduction to Botanical Illustration," a six-week class begins March 3; "Embroidered Garden Sampler," a four-week class begins March 4. Pre-registration is necessary. Call Plantations for description and registration information, 255-3020.

T'ai Chi Chuang Classes

Ancient Chinese exercise for health, relaxation, meditation and self defense with Kati Hanna will be held Mondays and Thursdays, 5 to 6 p.m. for beginners, 6 to 7 p.m. advanced, in the Edwards Room, Anabel Taylor Hall. For more information call 272-3972. T'ai Chi Chi Gung exercise classes will be held Mondays, Tuesdays and Thursdays at 8 a.m. with Robert Tangora, One World Room, Anabel Taylor Hall. For more information call 277-3388.

Tai Chi Push-Hands class will be held on Thursdays at 6 p.m., beginning Feb. 20, Edwards Room, Anabel Taylor Hall.

Theatre Arts

William Shakespeare's "Two Gentlemen of Verona" will be performed in the Black Box Theatre of Cornell's Center for Theatre Arts, Feb. 21, 5:30 p.m. and Feb. 22, 10:30 p.m. For more information, call the Ticket Center at 254-ARTS.

Water Aerobics

Water aerobic classes will be held Tuesdays and Thursdays, through May 8. Instructor: Carol Ash. For information call Debbie Gatch at 255-5133.



Karel Husa, the Kappa Alpha Professor of Music, will appear with the Colorado String Quartet on Saturday, Feb. 29, at 8:15 p.m. in Barnes Hall. The performance is free. The members of the quartet are: Deborah Redding, violin; Diane Chaplin, cello; Julie Rosenfeld, violin; and Francesca Martin, viola. See next week's Calendar for more details.

Combustion & Thermal Sciences

"Viscous Compaction Phenomenon in Porous Media: The Mechanics of Pressure Solution Deformation," Richard Birchwood, Feb. 24, 1:30 p.m., Ohaus Conference Room, 178 ETC.

Ecology & Systematics

"Mutually Beneficial Associations Among Coral Reef Sponges," Janie Wulff, Williams College, Feb. 26, 4:30 p.m., Morison Seminar Room, Corson/Mudd Hall.

Electrical Engineering

"Design and Application of an ATM Campus Network," Jonathan S. Turner, Washington University, Feb. 25, 4:30 p.m., 219 Phillips Hall.

Grows in Albany than Budget Deficits," Dale Rigges, Cornell Cooperative Extension, Albany, Feb. 27, 4:30 p.m., 404 Plant Science Building.

Geological Sciences

"Ophiolite Tectonics and the Evolution of Neotethys in the Mesozoic Eastern Mediterranean," Yildirim Dilek, Vassar College, Feb. 25, 4:30 p.m., 1120 Snee Hall.

Immunology

"Sympathetic Nervous System Modulation of Immunity: Implications for Immunoregulation and Immunotoxicology," Bruce Fuchs, Medical College of Virginia, co-sponsored by ICET, Feb. 21, 12:15 p.m., Boyce Thompson Auditorium.

Supermarket research

Coupon clipping makes 'cents,' but not a lot, study finds

By Susan Lang

Heavy coupon users report saving about \$10 for the 40 minutes a week they put into handling coupons, but when the cost of the time to obtain and sort those coupons is factored in, the net savings is reduced to \$5.86 a week, concludes a Cornell study.

Cornell consumer economist Rosemary Avery, who believes her analysis is the first cost-benefit analysis of using coupons, also found that age, educational level, car ownership or household income do not predict who uses coupons. In general, heavy coupon users and savers tend to have large families and young children, and work full time, she found. Non-users tend to be unmarried, male and living in small or single-person households.

Avery also found that consumers who use coupons not only reap a moderate financial benefit, but also certain psychological rewards.

To study coupon use, Avery and her colleagues conducted telephone interviews with a random sample of 600 households

in Columbus, Ohio, in 1990 and analyzed a follow-up mail survey that was completed by 62 percent of the sample. A summary of Avery's study, conducted with graduate student George W. Haynes, was published *Human Ecology Forum*.

Although heavy coupon users — those who use 10 or more coupons a week — report saving about \$10 a week, Avery says that when the cost of time is valued at minimum wage (\$3.65 per hour) and other costs associated with obtaining coupons are factored in, heavy coupon users net a high of \$5.86 a week.

Consumers are not otherwise earning money when they are handling coupons, yet the value of time and effort involved with coupon redemption needs to be assessed in a cost-benefit analysis, because the value of that time reduces the real value of the offered discount, Avery says.

"In using a conservative estimate of the cost of time, we found that very few coupon users are net losers. Most consumers do realize real benefits from using coupons, though the savings are relatively small,"

said Avery, an assistant professor of consumer economics in the College of Human Ecology.

One of Avery's most surprising findings was that coupon use is unrelated to a consumers' wage in the workplace. Consumers evidently perceive the "cost" of their time in using coupons as being worth well below their market wage rate when deciding whether to use coupons. In other words, they tend to view their coupon time as "cheap" or even "free" time regardless of the worth of their time in the marketplace. These findings dispute previous economists' assumptions that consumers would value their time spent using coupons in relation to their wages.

"If consumers consider their free time as being worth more than minimum wage, however, then using coupons might not be a rational activity," says the Cornell consumer economist.

Avery also found that while household income did not predict whether consumers used coupons, consumers from higher income households tend to realize lower net

savings. She suspects that consumers from higher income households may select coupons differently and/or be more selective in choosing coupons that only have higher face values.

In addition, Avery found that heavy coupon users tend to shop more frequently,

Heavy coupon users tend to have large families and young children, and work full time. Non-users tend to be unmarried, male and living in small or single-person households.

spend more money and time in the store on each shopping trip, are less brand loyal and seek more variety when they shop.

Coupon users also derive certain psychological rewards, feeling positive about themselves for exerting some control over the prices they pay and for being "smart shoppers" by beating the system.

As the number of products in the marketplace has mushroomed in recent years, coupon distribution also has soared, with manufacturers trying to provide incentives for consumers to buy their particular brands. In 1989, for example, 267.6 billion coupons (some 2,910 per household) with a potential savings of some \$132 billion were distributed — that's about 100 times more than in 1970, Avery points out.

And more households than ever are cashing them in: in 1970, about 58 percent of households used coupons; by 1988, some 77 percent redeemed coupons, representing a savings of an estimated \$2.93 billion. Four out of 10 consumers use at least one coupon every time they shop.

Avery maintains that a no-coupon world would most benefit consumers, because the costs of issuing and redeeming coupons on the part of manufacturers and retailers are passed on to consumers in the form of higher prices and consumers must expend non-trivial amounts of money, time and energy to use coupons. But she predicts that coupon distribution will only increase.

"For manufacturers, coupons are evidently more effective than price reductions to encourage consumers to try new products, switch brands and maintain and enhance repeat purchases," Avery says. "And with supermarket shelves being the most competitive retail market, manufacturers are not about to give coupons up as a popular way to woo customers."



Peter Morenus/University Photography

Assistant Professor Rosemary Avery, who says that using coupons may not make economic sense, browses at Tops Friendly Market.

Experts find that item pricing is not a concern to consumers

By William Holder

Pricing individual items in supermarkets is a costly practice considered unimportant by consumers if accurate price information is available at the point of selection, and it is creating problems for retailers in New York state who must cope with a patchwork of county legislation, according to the authors of a Cornell study.

Consumers want price information, they say, through better shelf labeling.

Since the state legislature allowed New York's item pricing law to expire June 30, the issue of whether to mandate individual pricing has become a county-by-county issue, said Gene German, professor of agricultural economics at Cornell. So far, five counties and New York City have mandated this practice.

"Each county is trying to pass a different law," said German. "This causes confusion for both consumers and retailers."

Counties that have implemented their own item pricing provisions since the sunset of the state law include Putnam, Ulster, Chataqua, St. Lawrence and Erie. Nassau County basically codified its existing item pricing regulations, according to James Rogers, president of the New York State Food Merchants Association. The vast majority of New York counties, however, have no provisions — a stance consistent with 44 states that do not require item

pricing.

Although both the state Assembly and Senate passed separate item pricing during the 1991 session, Rogers said the issue currently is in flux.

The cost of hiring inspectors to enforce laws, particularly during a recession, might deter more counties from passing laws, added Debra Perosio, co-author of the study and a research specialist in Cornell's College of Agriculture and Life Sciences.

"I don't think counties would be able to enforce such laws when the state had difficulty," she said. "Rather than legislating item pricing, we should leave it up to the marketplace to take care of it."

The 1991 study showed that supermarkets that used laser scanning technology at the cash register and omitted item prices had the most accurate cash register receipts.

The same study surveyed 1,000 shoppers throughout New York and revealed that consumers are much more concerned about cleanliness and low prices than about item pricing.

"When you ask consumers in stores — and we were in stores all over the state — what they don't like about shopping in a particular supermarket, item pricing doesn't come up," Perosio said.

Consumers were concerned, however, by inadequate shelf labeling of products. Because shelf labeling provides costs per

unit, it's a powerful tool for consumers and, in many cases, the only way to comparison shop.

Perosio said retailers might have averted some of the controversy surrounding item pricing if they had been more attentive to shelf labeling.

'When you ask consumers in stores — and we were in stores all over the state — what they don't like about shopping in a particular supermarket, item pricing doesn't come up.'

"The major problem with shelf tags is they are often not there, in the wrong place or incorrect," she said. "I think the retail industry could take a proactive stance on this and do a better job."

The study revealed that the technology of laser scanning, which reads bar codes on products, is more accurate than hand processing. Errors are normally attributable to humans who enter incorrect price information or mislabel prices at the shelves. Among the study's other findings are:

- Stores that scanned had an overcharge rate (where customers are charged more at

the cash register than indicated at the point of selection) of 2.1 percent, while the overcharge rate dipped to 1.5 percent for stores that both scanned and removed item prices. Removing item pricing eliminates a possible source of error and therefore produces higher accuracy.

- It cost an average store \$54,000 per year to place prices on individual items in the dairy, frozen foods and grocery departments, a labor-intensive task. The study did not assess a yearly cost for labeling the total inventory of an average store.

- Out of 1,000 supermarket shoppers, 98 percent indicated no concern about item pricing when asked general questions regarding what they liked and disliked about the store where they were shopping.

- When shoppers were presented with five possible concerns and asked to rate the most important, the order was: cleanliness, low prices, accurate and pleasant checkout clerks, price tags on every item and, least important, freshness dates.

- Only when asked specifically whether the absence of item prices was a concern did shoppers raise this as an important issue, with 68 percent indicating concern. In a follow-up question, 70 percent of the shoppers felt that clear, accurate shelf tags would overcome any of their concerns regarding price removal. The totality of evidence indicates little or no concern about item pricing, she said.

Hanson tries to encourage women to study science

By Susan Lang

Like many active scientists today, Maureen Hanson became interested in biology because of an outstanding high school teacher. Then, a summer job during college at a U.S. Department of Agriculture laboratory reinforced it — helping her realize that she wanted to be an experimental scientist.

Hanson — now a leading plant molecular biologist and the director of National Science Foundation-funded Plant Science Center at Cornell — oversees an undergraduate summer research program in plant biology.

The program provides opportunities for undergraduate students to participate in summer research projects in various laboratories of the many plant biologists at Cornell.

Hanson, as well as many of her colleagues in the Section of Genetics and Development, also has undergraduates working as laboratory assistants or on independent research projects in her own laboratory during the school year.

"Having this kind of opportunity is key for any biology major to find out if he or she has a real talent or interest in lab work. You have to actually spend time working in a lab to find out if you hate or love it," Hanson said.

"In fact, we've had students who thought they were headed for medical school who became fascinated by laboratory research, while others had exactly the opposite experience — they realized they weren't cut out for experimental science."

Having discovered that she was one of the ones who liked it, Hanson graduated from Duke University with a botany major and went to Harvard for a Ph.D. in biology. There she decided to carry out her thesis research in



Peter Morenus/University Photography
Maureen Hanson (right), director of the Plant Science Center at Cornell, and student Patricia Conklin examine plants used in studies at the center.

a laboratory that was studying how proteins are synthesized in chloroplasts.

Before joining the Cornell faculty, Hanson spent six years on the faculty at the University of Virginia, the first woman tenure-track faculty member in biology there.

Hanson commented, "There are still barriers to advancement for women in science; the percentage of women faculty at all levels in the U.S. is significantly lower than the number of women science Ph.D.'s."

To help women students meet some of these extra challenges, Hanson, along with many other Cornell women science faculty members, have volunteered their time to organize Women in Science workshops. Their most recent workshop was specifically aimed at undergraduate women considering science careers.

Hanson came to Cornell in 1985 as part of Cornell's effort to expand its resources in

plant molecular biology. "Cornell is definitely one of the best places in the country for plant scientists," Hanson said, "in terms of stimulating colleagues, student interest and modern facilities." What does Hanson enjoy about research in plant molecular biology?

"I like figuring out where there are gaps in current knowledge and designing experiments to fill them in. You get to create a hypothesis and then test your own ideas — there's a lot of freedom in choosing how you go about studying your research problem."

Hanson added, "The image of a solitary scientist hovering over a microscope in a lab just isn't correct. Most biological research is carried out by small teams — labs develop a sense of camaraderie, with sharing of ideas and data."

Yet, being a research scientist is "hard work," Hanson warned.

"Students don't realize it, but one sen-

tence in their textbooks can represent years of a research scientist's hard labor. Many, many experiments fail and you get nothing for that time put into them."

Hanson currently supervises a research lab that has three postdoctoral scientists, six graduate students, a senior laboratory technician and three undergraduate assistants.

Her research includes identifying and characterizing a gene that prevents pollen development, a trait that is important for developing hybrid seeds, as well as more fundamental studies concerning the genetics of mitochondrion, a cellular component that is responsible for energy metabolism.

Hanson also serves as associate director of the Biotechnology Program and is an active member of government grant review and science policy committees. Hanson has participated in scientific conferences all over the world.

Three great chefs



Charles Harrington/University Photography
Anne Gingrass (right), executive chef at Wolfgang Puck's Postrio Restaurant in San Francisco, works with students Anne Costello (left) and Josh Greenwald to prepare a gourmet dinner Feb. 16 as part of a great chefs course. The next dinner is March 8; call 257-2500 for reservations.

New method permits continuous monitoring of incinerator toxins

By William Holder

Toxic emissions from incinerators can be continuously monitored, using a new method developed by Cornell researchers.

Engineering physicist Terrill Cool said that he expects the detection method to be ready for field testing this spring, and that he hopes it will influence the process of licensing new municipal and hazardous-waste incinerators.

"I think that public concerns about toxic emissions are valid, and this method should go a long way to ease those concerns," he said. "Continuously monitoring the levels of emissions and knowing for certain, at any instant in time, whether they are within acceptable limits would certainly satisfy me."

Cool, a professor of applied and engineering physics, and graduate student Bradley Williams published their results in the *Journal of Combustion Science and Technology*.

The current method for detecting toxic emissions requires that a sample of effluent gases be sent to a laboratory for an expensive and time consuming analysis.

That method is flawed, according to Cool, because it "tells you about what happened during just the half-hour or so when you took the sample."

Also, operating conditions of the incinerator can vary, cold spots and poor mixing can occur near the walls, and incinerator parts may wear over time — all of which can lead to the formation of toxins during combustion. Current testing is typically carried out once a year.

Other methods of monitoring emissions, such as measuring carbon monoxide, carbon dioxide or total unburned hydrocarbons, indicate little or nothing about the presence of toxins of most concern to regulators and the public, Cool said.

Dioxins and furans have received the most public attention because they are persistent in the environment and are known to cause cancers and other biological effects in animals at low doses. They are commonly associated with emissions from solid-waste incinerators.

Because these toxic products of combus-

tion are normally present at levels that are difficult to detect (in the low part-per-trillion range), Cool's new technique relies upon detecting surrogate compounds that always are present when dioxins and furans are formed.

These surrogates are chemically close cousins to their more toxic counterparts but typically are present at higher concentrations (in the part-per-billion range).

"The value of relying on these surrogates is that their presence is a sure-fire indication that more toxic compounds are also present; the two go hand-in-hand," he said.

Cool and his colleagues have identified eight surrogate compounds and expect to have two dozen by this spring.

"That number would give us a pretty good way to track the emissions of all toxic compounds," he said.

One surrogate is a chlorinated version of ethylene gas (tetrachloroethylene), which is detectable at the level of 400 parts per trillion by Cool's method. Efforts to fool the detector by swamping it with closely related substances at concentrations 10,000 times as high have failed, thereby demonstrating the ability of the detector to single out the surrogate compound with great accuracy.

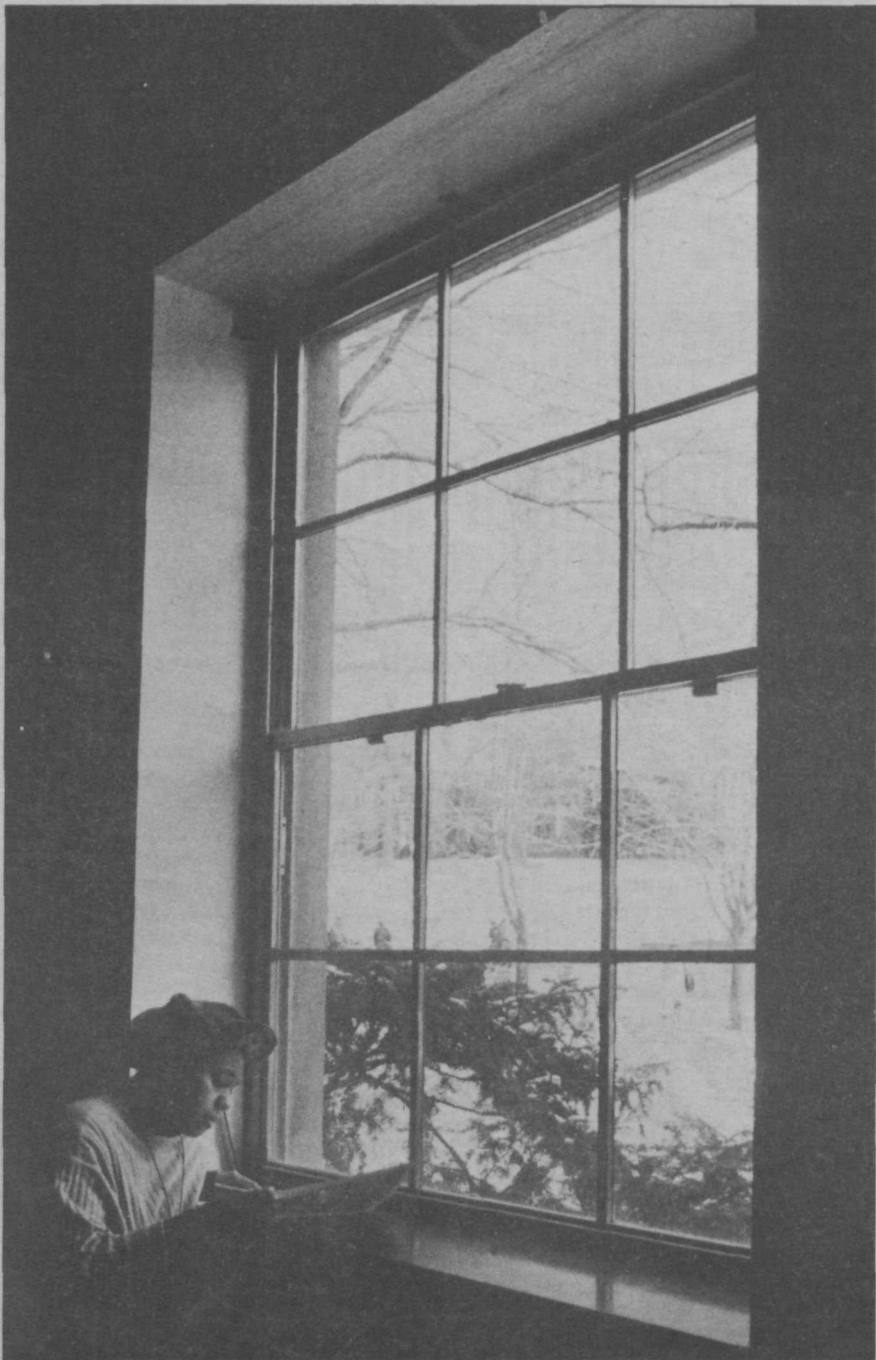
Although the cost of developing a prototype system for field testing could be as high as \$150,000, Cool said a unit could be housed in a van and moved to any number of incinerators. Monitoring could take place for any amount of time.

"We'd like to vary the operating conditions of incinerators, and if suddenly the concentration of surrogates goes up, we'd know there was a problem," he said.

"Under proper conditions, it is possible to do a really clean job of combustion and to have toxic compounds remain well within permissible limits," he added.

The detection technique is known as resonance-enhanced multiphoton ionization spectroscopy and is a well established research tool. It relies on the expansion of effluent gases into a vacuum at supersonic speeds, a process that cools the sample gases to between minus 268 and minus 223 degrees Celsius (5 to 50 degrees Kelvin).

By the light of day



Freshman Petrina Dacres fills out a form in Day Hall.

Alberding ready to roll with rock climbing festival

By Carole Stone

In Los Angeles, rock climbers who can't wait to head for the mountains risk \$1,000 fines to construct artificial climbing walls under highway overpasses, chipping hand and toe holds into the concrete walls.

At Cornell, rock climbers can practice the sport on the Lindseth Climbing Wall, a 160-by-30-foot surface made of natural granite rocks imbedded in concrete, sculpted concrete and overhanging slabs.

This enormous, realistic climbing wall, the largest at any American university, will be the site of Cornell Outdoor Education's second Indoor Rock Climbing Festival and Open House on Saturday and Sunday, Feb. 22 and 23.

Nearly 100 climbers from 12 colleges and universities are expected to attend, making this the premiere collegiate climbing event in the country, said Dan Tillemans, director of Cornell Outdoor Education. Renowned climbers Graham Desroy and Mike Freeman will be there, too.

Desroy was a third place finisher in the 1991 British Open Climbing Competition and Freeman is one of the foremost climbers at the Catskill Mountain Shawangunk cliffs.

Competitive climbing will begin at 9:30 a.m. on Sunday, Feb. 23, with finals beginning at 2 p.m.

This is not, however, a festival just for elite climbers, said Tillemans.

"This is not like the World Cup and major national competitions where the best people climb and everyone else stands around and watches," he explained.

"It's part of our educational mission to help develop individuals through the sport of climbing. We encourage climbers of all levels to push past their personal limits."

Most climbers will compete against themselves. Like marathon runners who aim to finish a race within a certain time, climbers will pick routes they think they can complete and score points for reaching their goals.

For these climbers, there will be workshops to improve their skills in jamming cracks, turning roofs and balancing on "tweakers," those tiny holds of less than a quarter inch.

Beginners who have never been "on belay," the rock climber's term for being tied into a safety line, will have a chance to try climbing some of the easier routes during an open climbing time for the public on Saturday. Experienced Cornell climbers will belay and coach.

Vendors will be on hand to display climbing gear, and sign-up sheets will be available for Cornell Outdoor Education summertime climbing classes, including "Kiddie Rock," a popular weeklong course for 8-to-12 year olds and a course for 12-to-16 year olds.

'This is not like the World Cup and major national competitions where the best people climb and everyone else stands around and watches. We encourage climbers of all levels to push past their personal limits.'

— Dan Tillemans

Desroy, who is co-director of D.R. Climbing Walls, the British firm that designed the Lindseth wall, and Freeman, who works at Princeton University, are both excellent amateur photographers, Tillemans said, and both will give slide show presentations that should be of interest even to non-climbers.

The climbing wall, named for its benefactor, Jon Lindseth '56, opened two years ago. Every fourth block of the 4,800-square-foot concrete wall is custom made with natural rock imbedded in concrete, combined with angular sculpted forms of high-aggregate concrete.

"Basically this is an excuse to get a lot of people together in the middle of winter and have fun," said Charles Matheus, climbing wall manager and festival coordinator, adding that awards will be given in more or less serious categories, including novice, not-so-novice, longest traverse in most-beat shoes and most outrageous climbing outfit.

"It's got to be fun — this is the middle of February," he added.

Cornell University Academic Calendar 1992-93 — 1996-97

FALL TERM	1992-93	1993-94	1994-95	1995-96	1996-97
Registration/Course Exchange	Tu/W 8/25-26	Tu/W 8/24-25	Tu/W 8/23-24	Tu/W 8/29-30	Tu/W 8/27-28
Instruction Begins	Th 8/27	Th 8/26	Th 8/25	Th 8/31	Th 8/29
Labor Day, Classes in Session	M 9/7	M 9/6	M 9/5	M 9/4	M 9/2
Fall Break Begins, 1:10 p.m.	S 10/10	S 10/9	S 10/8	S 10/7	S 10/12
Instruction Resumes, 7:30 a.m.	W 10/14	W 10/13	W 10/12	W 10/11	W 10/16
Thanksgiving Recess Begins, 1:10 p.m.	W 11/25	W 11/24	W 11/23	W 11/22	W 11/27
Instruction Resumes, 7:30 a.m.	M 11/30	M 11/29	M 11/28	M 11/27	M 12/2
Last Day of Classes	S 12/5	S 12/4	S 12/3	S 12/9	S 12/7
Study Period	Su-W 12/6-9	Su-W 12/5-8	Su-W 12/4-7	Su-W 12/10-13	Su-W 12/8-11
First Days of Scheduled Exams	Th/F 12/10-11	Th/F 12/9-10	Th/F 8-9	Th/F 12/14-15	Th-F 12/12-13
Last Days of Scheduled Exams	M-F 12/14-18	M-F 12/13-17	M-F 12/12-16	M-F 12/18-22	M-F 12/16-20
Last Day of Exams (Conflicts Only)	S 12/19	S 12/18	S 12/17	S 12/23	S 12/21
Winter Session Period Begins	M 12/28	M 12/27	M 12/26	Tu 12/26	Th 12/26
3-Week Classes Begin	M 1/4	M 1/3	Tu 1/3	Tu 1/2	Th 1/2
Winter Session Period Ends	F 1/22/93	F 1/21/94	F 1/20/95	F 1/19/96	F 1/17/97
SPRING TERM					
Registration/Course Exchange	Th/F 1/21-22	Th/F 1/20-21	Th/F 1/19-20	Th/F 1/18-19	Th/F 1/16-17
Instruction Begins	M 1/25	M 1/24	M 1/23	M 1/22	M 1/20
Spring Break Begins, 1:10 p.m.	S 3/20	S 3/19	S 3/18	S 3/16	S 3/15
Instruction Resumes, 7:30 a.m.	M 3/29	M 3/28	M 3/27	M 3/25	M 3/24
Last Day of Classes	S 5/8	S 5/7	S 5/6	S 5/4	S 5/3
Study Period	Su-W 5/9-12	Su-W 5/8-11	Su-W 5/7-10	Su-W 5/5-8	Su-W 5/4-7
First Days of Scheduled Exams	Th/F 5/13-14	Th/F 12-13	Th/F 11-12	Th/F 5/9-10	Th/F 5/8-9
Last Days of Scheduled Exams	M-F 5/17-21	M-F 5/16-20	M-F 5/15-19	M-F 5/13-17	M-F 5/12-16
Last Day of Exams (Conflicts Only)	S 5/22	S 5/21	S 5/20	S 5/18	S 5/17
Senior Week	Su-S 5/23-29	Su-S 5/22-28	Su-S 5/21-27	Su-S 5/19-25	Su-S 5/18-24
COMMENCEMENT	Su 5/30	Su 5/29	Su 5/28	Su 5/26	Su 5/25
Summer Session:					
3-Week Session Regist/Classes Begin	W 6/2	W 6/1	W 5/31	W 5/29	W 6/4
8-Week Session Regist/Classes Begin	M 6/14	M 6/13	M 6/12	M 6/10	M 6/16
3-Week Session Final Exams	F 6/25	F 6/24	F 6/23	F 6/21	F 6/27
6-Week Session Regist/Classes Begin	M 6/28	M 6/27	M 6/26	M 6/24	M 6/30
6- and 8-Week Sessions Final Exams	M/T 8/9-10	M/T 8/8-9	M/T 8/7-8	M/T 8/5-6	M/T 8/11-12

This Calendar may be subject to modification and is not legally binding. Copies are available from the Office of the Dean of Faculty and the Information and Referral Center in Day Hall.

Aid policy continued from page 1

The Holcomb committee's recommendations are intended to add a faculty voice to the budget process; but, for lack of a quorum in December, the FCR was unable to vote on the recommendations before the Board of Trustees had adopted next year's budget policies.

Dean of the Faculty Walter Lynn, in noting the difficulty of raising a quorum of 51 members, said that "those of you who stand for election have responsibilities," and he noted that he had begun to publish members' attendance records.

Besides endorsing the committee recommendations, the FCR approved, unanimously, two resolutions asking President Frank H. T. Rhodes to issue statements in behalf of the university.

• One, offered by government Professor Isaac Kramnick and law Professor Steven Shiffrin, concerned campus recruitment by the armed forces, which bar homosexuals. The resolution accepted Rhodes' decision that Cornell cannot legally ban such recruitment. But the resolution urged Rhodes "to issue a statement" to the effect that "discrimination on the basis of sexual orientation . . . represents an affront to the principle of equal rights for all."

• The other resolution, offered by classics Professor Fred Ahl and physics Professor Kurt Gottfried said the "preeminent international position" of Cornell and its peers is threatened by government cutbacks in financial aid. While endorsing need-blind admission and the current financial aid policy, the resolution said that "Cornell cannot commit itself to a level of student aid that would undermine its ability to discharge its teaching and scholarly missions with the standards that are rightly expected of it."

The resolution called on Rhodes to "make it clear to the university community and the nation at large that Cornell must balance its commitment to student aid with the imperative of preserving its long-term strength, and that Cornell, like its peer institutions, cannot redress the lack of commitment by our nation's various governments and electorates to our nation's children."



CORNELL BIOTECHNOLOGY Research Support Facilities

published by Cornell University Biotechnology Program

Vol. 1, No. 1, February 1992

From the Director - Lynn W. Jelinski

There is little doubt that biotechnology - the use of biological organisms and techniques to produce products - will have a major positive impact on society during our lifetimes. Because of advances in biotechnology, we are likely to see radical changes in the practice of medicine. We will also probably see the production of improved and disease-resistant crops, a decrease in our dependence on chemical pesticides, and a renewed environment through bioremediation (the use of biological organisms and processes to clean up the environment). The decade of the 1990's will be the era when the initial promises of biotechnology are realized on a large scale and to the benefit of society.

My vision is that Cornell University will be a major player in this emerging biotechnology revolution. We intend to put Cornell "on the map" in biotechnology, not just in the United States, but worldwide.

It was therefore with pride in our past accomplishments and with excitement about our future that I took over the directorship of Cornell's Biotechnology Program this past September. We can be proud of many achievements to date. Since its inception in 1983, the Biotechnology Program has been responsible for bringing to Cornell more than 40 million new research dollars. We have supported work leading to five patents and almost 60 patent disclosures. We funded the development of the gene gun at a time when the federal agencies thought the idea was too risky. And we've spun off seven new companies, including Phyton Catalytic, which produces the tumor suppressing drug taxol through plant tissue culture, and Paracelsian, Cornell's first spinoff company to go public.

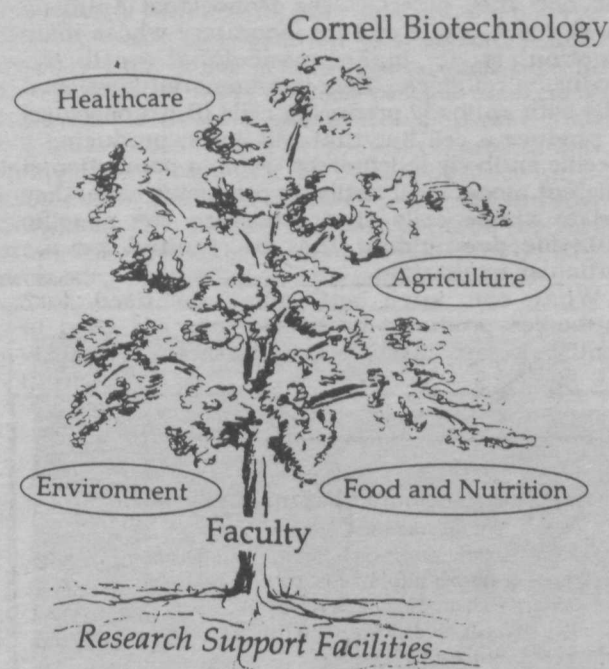
Our mission is threefold—education and training, research and development, and technology transfer. Since 1983, Cornell's Biotechnology Program has carried out its mission with funding from New York State, the Federal government, and private industry. We are currently a New York State Science and Technology Foundation Center for Advanced Technology in biotechnology. The Biotechnology Program also includes the NSF/DOE/USDA-funded

Plant Science Center, directed by Maureen Hanson. Until this year we were supported by the Army as a Center of Excellence in biotechnology. The funds flowing into the Biotechnology Program are distributed to the Cornell faculty through campus-wide grant competitions and by subsidizing the research support facilities. That this method of operation has been successful is evidenced by the large number of high quality research publications, patents and patent disclosures, and spinoff companies.

We like to use the analogy of a tree when we describe how the biotechnology program is organized and focused. Our six biotechnology Research Support Facilities, the subject of this *Chronicle* article, form the roots of the tree. They support and nourish the faculty, which in our analogy form the trunk of the tree. We have chosen four main focus areas: agriculture, food science and nutrition, healthcare, and the environment, depicted here as limbs of the tree. Within these focus areas, we are forming "faculty clusters". The clusters are interdisciplinary groups of faculty who share common research interests. They act both as vehicles for attracting industrial funding and as intellectual focal points on campus.

As a resource and underpinning for the campus, the Research Support Facilities serve a large number of customers—over 300 different users over the past year. We recently surveyed our customers, and found that 90% of them rate our overall service as "high", the top category in our questionnaire. Even so, we are far from complacent. We are continually upgrading our instrumentation, introducing new techniques and methodologies, and shaving our turnaround time. We continually evaluate the need for new facilities focused on evolving technologies. Potential examples include DNA analyses of genetic diversity and analytical quantification of environmental pollutants.

A major new initiative will be the use of the research support laboratories in a stronger educational role. Hands-on courses are being developed under the leadership of the facility directors. These will enable graduate students,



faculty, and our industrial partners to become proficient in laboratory techniques such as monoclonal antibody production, confocal microscopy, or peptide synthesis. These courses are designed to address the evolving nature of Cornell's research activities and to provide retooling opportunities for industrial participants.

Our industrial participants provide an important dimension to the Biotechnology Program. Depending on their level of support, Corporate Partners may become direct research sponsors of biotechnology at Cornell, or they may join us as affiliates to maintain a window on biotechnology.

The Biotechnology Research Support Facilities, in conjunction with our new focus areas and our faculty clusters, will allow Cornell's biotechnology effort to meet our goals in education, research, and technology transfer. Through these activities and our Corporate Partners program, we will truly fulfill our vision of Cornell's world leadership position in biotechnology.

Facilities Overview

The Cornell Biotechnology Program oversees the operation of six service facilities that support research activities on campus. These include: the Computer Facility, the Monoclonal Antibody Facility, the Fermentation Facility, the Analytical Chemistry and Peptide/DNA Synthesis Facility, the Flow Cytometry and Imaging Facility, and the Plant Tissue Culture and Transformation Facility. The activities of the Facilities are detailed in the accompanying articles.

These central facilities make available to researchers the equipment and expertise necessary to perform a number of specialized procedures that would otherwise be too expensive for the average research lab. In several instances collaborations and new research areas have been developed as a direct result of Facility interactions.

The Research Support Facilities are centrally located on the first floor of the Biotechnology Building, with the exception of the Fermentation Facility, which is on the ground floor. Dr. Richard Holsten, Director of Research and Corporate Relations, oversees administrative matters. A combination of user fees and outside funding supports the Facility programs. The Plant Tissue Culture and Transformation Facility is supported by the NSF/USDA/DOE Plant Science Centers program; consequently, fees are charged only to cover the costs of consumable supplies. The other Facilities are subsidized by the Biotechnology Program, using Corporate Partner

contributions and New York State Center for Advanced Technology funds. User fees cover the remaining expenses.

The users include more than 300 researchers across campus and individuals from ~15 companies, in areas ranging from chemistry to genetics to plant breeding. In December, 300 survey forms were sent to users of the Biotechnology Facilities, and approximately 150 completed responses were received. In answer to the question of how important the central support

Facility Directors

Ted W. Thannhauser	Analytical Chemistry and Synthetic Facility 141 Biotechnology Building	254-4850
Martha Schrier, Ph.D.	Computer Facility 154 Biotechnology Building	255-9914
David Wilson, Ph.D.	Fermentation Facility 458 Biotechnology Building	255-5706
James P. Slattery	Flow Cytometry Facility 171 Biotechnology Building	254-4862
Mary Lee Noden	Monoclonal Antibody Facility 167 Biotechnology Building	255-4665
Karen L. Kindle, Ph.D.	Plant Tissue Culture and Transformation Facility 151 Biotechnology Building	254-4851

facilities were, 89% of respondents rated them as "very important" and 11% thought they were "important". The overall impression of the facilities was very positive (77% very favorable, 22% favorable). A summary of the remaining responses, in which data for all facilities is grouped together, can be seen in the table below.

In order to tour one of the Facilities or make use of their services, interested individuals may call the appropriate Facility Director (see box) or stop by and meet with the Director and/or staff. Furthermore, brochures describing the Facilities in more detail can be obtained by calling (607) 255-2300.

Facility Users Survey Results

Ratings:	High	Moderate	Low	No opinion
Services offered	90%	9%	0%	1%
Staff competence	90%	9%	0%	2%
Quality of product	81%	17%	1%	2%
Turnaround time	57%	29%	6%	8%
Cost of service	28%	48%	9%	15%

Monoclonal Antibody Facility

Antibodies are best known for their role in fighting infections in the human body, but they have important research, diagnostic, and therapeutic applications, as well. The antibodies that are produced during an immune response are polyclonal; that is, they are a heterogeneous population that recognizes and attacks different parts of the foreign antigen. Monoclonal antibodies, in contrast, are homogeneous, and recognize only a single antigenic determinant. (The schematic diagram shows how each is produced and how they differ). The Monoclonal Antibody Facility is a tissue culture laboratory whose main function is to make monoclonal antibody-producing cell lines. They join immortal (myeloma) cells with antibody producing cells (B lymphocytes) to produce a cell line that will go on producing a specific antibody indefinitely. From a population of different monoclonal antibody producing cells, they isolate single cells that recognize the specific antigenic determinant that is required for the particular application.

What can such antibodies be used for? Antibodies produced by hybridomas are used to identify, isolate, and purify biological molecules.



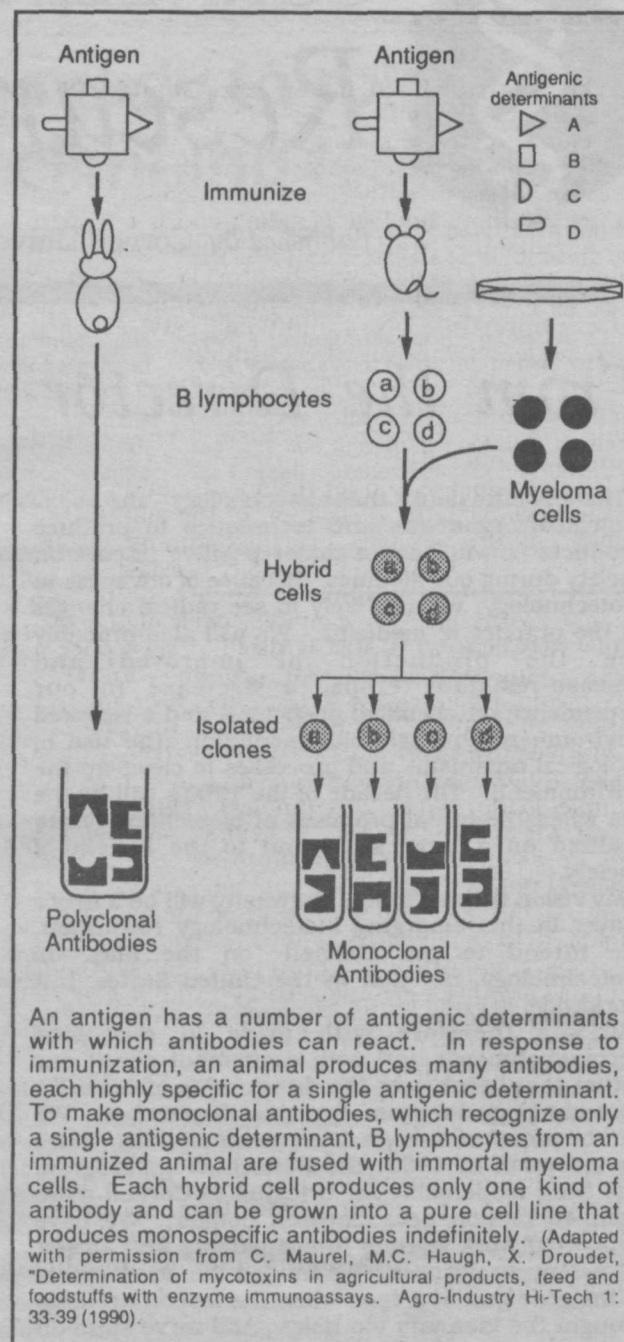
Research Assistant Deb Whiting gives instruction in monoclonal antibody production.

Clinical applications include screening for AIDS in blood samples, cancer therapy and diagnostic imaging. Because antibodies are so specific, they can be used to target a treatment to a specific population of cells. By coupling a toxin to a monoclonal antibody that recognizes an antigen found only on cancer cells, it is theoretically possible to deliver the toxic drug only to the cancer cells. Alternatively, a scientist might identify an interesting protein and want to determine its specific location in the cell. Antibodies can be coupled to molecules that are visualized using light or electron microscopes. For instance, fluorescent probes can be attached to antibodies and used to label antigens within cells (see also Flow Cytometry and Imaging Facility.)

The Monoclonal Antibody Facility Staff includes Facility Director Mary Lee Noden and Research Assistant Deb Whiting, who does much of the instruction and hands-on work in the Facility. Currently, the Facility is working on 16 different monoclonal antibody preparations. Clients include Cornell University researchers as well as agreements with the U.S. Army (Natick), Bausch and Lomb, Alliance Pharmaceuticals, and the Ithaca-based Paracelsian company.

In addition to producing monoclonal antibodies, the Facility will advise investigators on immunization protocols and will perform fusion procedures, clone cells, isotype antibodies, and cryopreserve cell lines. An *in vitro* protocol that does not require animal immunization is also available. Other services include ascites production and production of large volumes of cell culture supernatant.

The Facility Staff will also provide instruction in the techniques mentioned above. They have participated in the Cornell Cooperative Extension "On Campus" experience for junior and senior high school students and the Cornell Institute for Biology Teachers' participating teachers laboratory for high school juniors. In these programs young high school students come into the lab, perform a simple laboratory exercise and have the opportunity to see a modern immunology lab in action. In the future, the staff plans to offer courses in hybridoma methodology, which will be open to Cornell graduate students and faculty.



An antigen has a number of antigenic determinants with which antibodies can react. In response to immunization, an animal produces many antibodies, each highly specific for a single antigenic determinant. To make monoclonal antibodies, which recognize only a single antigenic determinant, B lymphocytes from an immunized animal are fused with immortal myeloma cells. Each hybrid cell produces only one kind of antibody and can be grown into a pure cell line that produces monospecific antibodies indefinitely. (Adapted with permission from C. Maurel, M.C. Haugh, X. Droudet, "Determination of mycotoxins in agricultural products, feed and foodstuffs with enzyme immunoassays. Agro-Industry Hi-Tech 1: 33-39 (1990).")

Flow Cytometry and Imaging Facility

The Flow Cytometry and Imaging Facility employs a variety of techniques to probe the structure and function of cells and proteins using fluorescent compounds. These techniques have application to health care, agriculture, and even environmental issues. For example, the amount of DNA in a cell can be measured. The quantity of DNA in a cell is important in cancer research and treatment as well as in designing plant breeding strategies. DNA analysis and chromosome sorting techniques have been used to isolate specific chromosomes from tomato (see box on right). Enrichment for specific sex offspring in animal breeding programs has been accomplished by sorting sperm based on the difference in DNA content between male- and female-determining sperm. Environmental contaminants, such as the Legionnaire disease-causing bacterium, have been detected using flow cytometry.

The instruments in the Flow Cytometry and Imaging Facility detect and measure light emitted from fluorescent molecules that associate with specific sites on or in the cell. This specificity may come from a fluorescently labeled antibody that recognizes and binds to a specific cellular antigen

or from the binding between a fluorescent compound and a specific substrate. When a fluorescent compound is exposed to light, it is excited and re-emits light of a different color (longer wavelength). For example, a dye such as DAPI binds to DNA and emits blue light when exposed to ultraviolet light. The amount of blue light emitted is directly proportional to the amount of DNA in a cell. Fluorescent dyes have been designed to be sensitive to intracellular calcium or pH, membrane potential, or DNA or RNA content. One of the most commonly used techniques is to label a monoclonal antibody with a dye such as fluorescein, rhodamine or phycoerythrin, and use the monoclonal antibody to recognize a specific site on the cell.

The Flow Cytometry and Imaging Facility has several instruments that can be used for quantitative measurements of fluorescence. The choice of instrument and technique depends on the specific project and its goals. Total fluorescence in a sample can be measured using a spectrofluorometer or flow cytometer, while cellular localization can be determined by fluorescence video or confocal microscopy. A computer system for analyzing video images from the fluorescence microscope allows the fluorescence to be quantified and correlated with cellular morphology.

The newest instrument in the Facility is a BioRad MRC-600 dual channel laser scanning confocal microscope. Using sophisticated optics, this microscope can obtain thin optical sections from a live or fixed fluorescently stained sample without damaging the specimen. By stacking multiple sections, it is possible to generate 3-dimensional representations of cellular structures. The images obtained on this microscope are superior to those obtained with a standard fluorescence microscope because out-of-focus fluorescence is largely eliminated.

Two flow cytometers (frequently referred to as fluorescently activated cell sorters) are used to analyze and sort individual fluorescently tagged cells on the basis of size and fluorescence intensity. With these instruments, thousands of cells can be analyzed or sorted in a matter of seconds. This speed is achieved by rapidly passing each stained cell through a laser beam to excite the fluorescent dyes and measuring the fluorescence with fast and sensitive detectors.

Facility Director James P. Slattery is available

Cornell Biotechnology Research Support Facilities was published by the Cornell University Biotechnology Program.

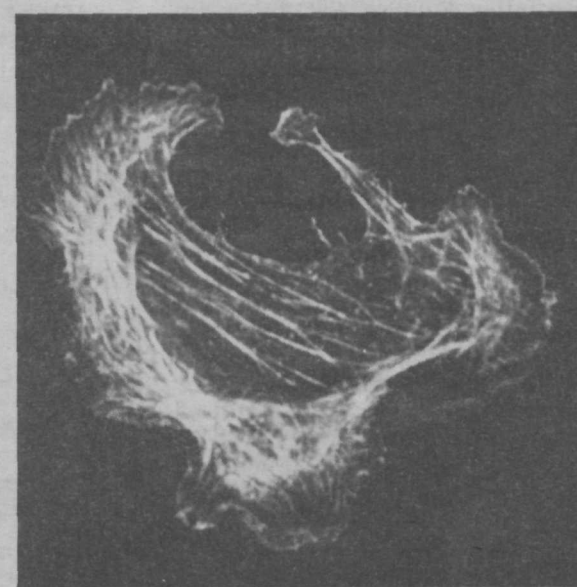
Editor and Designer: Karen Kindie

Design Assistant: Melissa Stucky

Contributors: Lisa Earle, Dick Holsten, Lynn Jelinski, Mary Lee Noden, Marty Schrier, Jim Slattery, Ted Thannhauser, David Wilson

Photography and Artwork: Hana Barker, Mark Hartsuyker, Peter Morenus, Bob Sherwood, John Telford

for consultation and advice on potential applications of fluorescence techniques to achieve particular research objectives. A series of seminars for individuals interested in learning more about the theory and possible applications of fluorescence is being developed. The first two part seminar on flow cytometry was presented this fall and was attended by more than sixty-five researchers. This seminar will be repeated in the spring or fall of 1992. The next seminar will focus on the theory and application of confocal microscopy to biological problems and will take place March 2 and 4 from 2-3:30 pm in the large seminar room of the Biotechnology Building. Although registration is not required please call 254-4860 if you plan to attend.



The BioRad MRC600 Laser Scanning Confocal Microscope was used to obtain this optical section of rhodamine-phalloidin stained actin in mouse embryo fibroblast cells (NIH 3T3). Photo courtesy of A. Bretscher and M. Footer.

Analytical Chemistry and Peptide/DNA Synthesis Facility

The Analytical Chemistry and Peptide/DNA Synthesis Facility was established in 1984 and is the oldest of the six research support facilities operating under the auspices of the Biotechnology Program. It is currently located in rooms 141 and 143 of the Biotechnology Building and is operated by a full-time staff of five. When originally conceived, this facility was to provide only amino acid analysis and protein sequencing services. However, over the years additional services have been added. Currently these additional services include oligonucleotide synthesis, peptide synthesis, protein purification and peptide mapping by high performance liquid chromatography, (HPLC).

The principal reason for the success and growth of the Facility is the dedication of the staff to the quality of the services provided and materials produced. This dedication to quality is evidenced by the efforts that are expended in quality control and quality assurance. For example, each of the two protein sequencers is standardized at least once a week using one of several protein standards (myoglobin, ribonuclease A, lysozyme, hirudin) or a variety of synthetic peptides. Standard runs are made from several sample matrices (glass fiber disks, PVDF membranes etc.), and in a range of sample loadings (10-200 pmoles). This detailed standardization procedure is utilized so the user can be assured that our instruments function properly not only with a perfect "installation spec" standard but also with samples from the real world. Amino acid analysis is subjected to a similar rigorous standardization procedure. All synthetic peptides are routinely analyzed by two dimensions of HPLC, capillary electrophoresis, amino acid analysis, and electrospray mass spectroscopy. All synthetic oligonucleotides are analyzed by UV spectroscopy and reverse phase HPLC. Soon analysis by capillary electrophoresis will be added to the list of methods by which synthetic oligonucleotides are routinely analyzed. These quality control procedures take time, somewhat slowing turnaround, but pay off in the long run by ensuring the accuracy of the analysis and the quality of the product.

An external check on quality comes from participating in surveys that examine the capabilities of core facilities, administered by the Association of Biomolecular Resource Facilities (ABRF). This allows a realistic comparison between the quality of the services available at Cornell and the quality of service available at other academic and industrial core facilities. In 1991 the Analytical Facility participated in two such surveys; one

involved peptide synthesis, the second protein sequencing.

The Facility performed very well in both studies. In peptide synthesis the unpurified peptide from Cornell was judged to be the best synthesized by Fmoc chemistry, and the purified peptide was ranked in the highest category, having met or exceeded all the criteria for purity. Furthermore, the conclusions of this survey amounted to a ringing endorsement of the protocols that have been standard operating procedure in the Facility since the introduction of peptide synthesis. The results of the protein sequencing study are summarized in the following table.

	Repetitive Yield ¹	Number of Positive Correct ²	Accuracy of Positive Calls
ABRF AVE	83%	14	83%
CORNELL	87%	18	95%

¹ The repetitive yield is a measure of the performance of the sequencer and is directly proportional to the length of the sequence that can be determined.

² A positive identification is one in which the sequencer operator has high confidence in the identification.

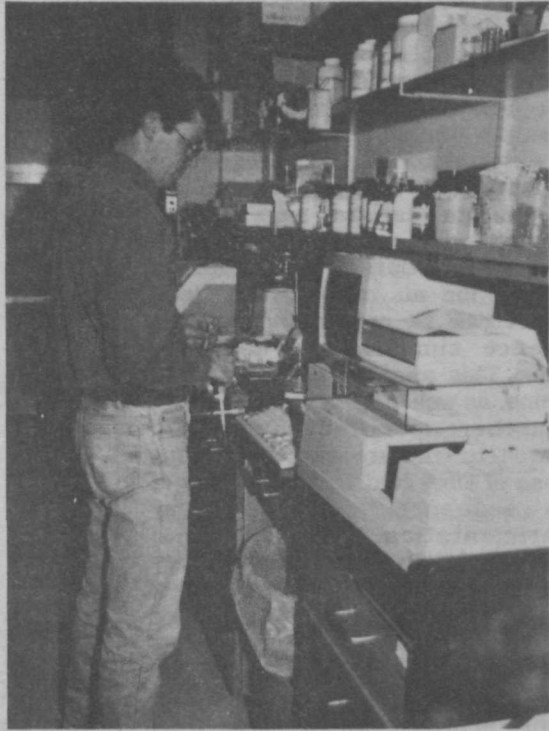
These results clearly indicate that the quality of the protein sequencing service available at Cornell is significantly higher than that available at an average core facility. Effort expended in quality control and quality assurance has paid off.

A Facility Users Survey, conducted in December 1991 by the Biotechnology Program, has been completed and the results have been made available to the various Facility directors. The results indicated a 99% satisfaction rating, but also indicated two areas of concern: the level of user fees, and turn-around time, particularly for protein sequencing and peptide synthesis.

Unfortunately, it is unlikely that fees can be reduced significantly in the near future. Considerable effort is made to keep costs down. First, material costs for chemicals, solvents and reagents are negotiated with individual suppliers for the lowest possible prices. Second, the protocols used in the Facility are more efficient than those recommended by instrument suppliers. Further, the synthesis schedule is optimized to reduce waste. Finally, maintenance costs are minimized by carrying no service contracts on any of the Facility's equipment. All instrument maintenance is performed in house. This not only results in a

yearly net savings to the facility of \$50,000, but also reduces instrument down time. In addition, personnel costs are minimized by using automated equipment as much as possible. The current fees are in most cases significantly less than the average charges by academic core facilities.

Turnaround time, the time between the submission of a sample or an order and the receipt of the product or results, is another important issue. The acquisition of a second protein sequencer has resulted in a doubling of sample capacity and a reduction of turnaround, from an average of 6 weeks, to < 1 week. The addition of a second peptide synthesis specialist has cut turnaround time for this service in half. Free on-campus delivery of analysis results, synthetic peptides and oligonucleotides further decreases turnaround time. In March the hours that the Facility operates will be extended to 8:00 AM-10:00 PM, Monday through Saturday. This should not only improve the turn around time for all services but also reduce costs by promoting more efficient operation.



Jeff Overstrom measures the ultraviolet absorption spectrum of an oligonucleotide.

Chromosome Isolation Using Fluorescence Activated Cell Sorting

One of the research projects using the Flow Cytometry Facility deals with isolation and sorting of chromosomes from plants. In work at the Los Alamos and Livermore National Laboratories, scientists have been able to collect samples of the 23 different human chromosomes and to use them for making chromosome-specific DNA-libraries (i.e., collections of DNA sequences that are located only on a given chromosome). These libraries are widely used in the human genome project, particularly in attempts to isolate genes responsible for inherited diseases. Chromosome-specific libraries would also be valuable in many types of work with plants, but to date little work has been done with the sorting of plant chromosomes.

Dr. K. Arumuganathan, working in the lab of Dr. Elizabeth Earle in the Department of Plant Breeding, has developed methods for isolating large numbers of chromosomes from cultured tomato or petunia cells grown in liquid medium. He then stains them with two fluorescent dyes that bind to different regions of the DNA in the chromosomes. By running the stained samples through a fluorescence activated cell sorter in the Flow Cytometry Facility, it is possible to identify some of the chromosomes on the basis of their size and fluorescence and to collect those chromosomes for further work. Just a few thousand isolated chromosomes are sufficient for production of DNA libraries, using recently developed molecular techniques. Earle, Arumuganathan, and the others associated with this project hope to develop general techniques that can be applied to other plants, including cereals like rice. Because chromosome-specific libraries will aid in mapping and isolating agriculturally important genes, they can contribute to the development of improved crop plants via biotechnology.

The work on chromosome sorting has been supported by the Biotechnology Program, the Department of Energy, and the Department of Agriculture.

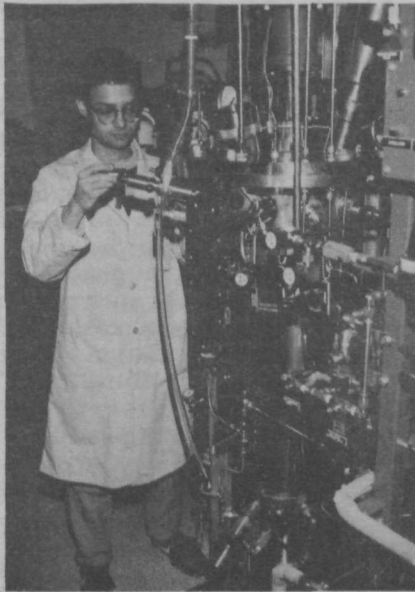
Fermentation Facility

If you think that fermentation is used only to make beer and wine, you would be surprised at the number of applications for fermentation in biological research. Fermentation allows the large scale growth of microorganisms and is used whenever a large amount of a cellular product (e.g. a protein, an antibiotic, or a vitamin) is required. Because genes from multicellular organisms can be cloned and expressed in bacteria, any gene product can in theory be made in large quantity via fermentation.

The Fermentation Facility con-

tains equipment for growing and harvesting microorganisms, concentrating large volumes of macromolecular solutions, and preparing extracts from large numbers of cells. Assistance is available to help first-time users operate the equipment properly, but there are no permanent personnel in the Facility. Consequently, it is run on a do-it-yourself basis. An autoclave and distilled water are present in the Facility, but users must bring ingredients to make culture medium. The medium is sterilized within the fermenter and can then be inoculated with the microbial culture.

The Facility contains three 10 liter New Brunswick pilot scale fermenters, one of which has a pH controller. On a larger scale, there is an IF-75 fermenter with an ML-4100 controller that can regulate 10 independent parameters. The working volume is 30 to 55 liters and pH, pO₂, temperature and agitation rate can be regulated and monitored. A refrigerated Sharples continuous flow centrifuge as well as a Millipore Pellicon tangential flow filtration unit are available for harvesting cells. The filtration unit can also be used to concentrate 10 to 100 liter volumes of macromolecular solutions at a rate of about 6 liters an hour. There is a Gullon press and an Aminco motorized French press for breaking cells to make whole cell extracts from 20 to 2000 grams of cells. The ability to grow and work with microbial cells in large quantity can turn the isolation of a rare protein from a nightmare into a manageable job.



Julio Mulero, a graduate student in Biochemistry, Molecular and Cell Biology, using the large fermenter.

Computer Facility

A major focus for the Computer Facility is to aid students and other researchers in the analysis of DNA, RNA, and protein sequences that have resulted from their research. More than 100 different computer programs are available within the Genetics Computer Group (GCG) Sequence Analysis software package, which is supported by the staff in the Computer Facility.

When a protein or DNA sequence is obtained, it is interesting and important to determine whether this sequence (or a similar one) has already been identified. Published sequences are stored in large databases that can be accessed using various searching tools. A facility user can enter his or her new protein or DNA sequence into the computer and compare that sequence with the more than 62,000 sequences kept in the database. A high degree of similarity between two sequences may indicate that they were derived from a common ancestor or share a common function. Sometimes a function for an unidentified gene product can be proposed based on sequence similarity to identified genes. This analysis can extend to proteins, as well.

Another tool that can help researchers who are sequencing long regions of DNA combines segments of DNA sequence, determined by experimentation, into a final sequence. To understand this problem, consider the segments of DNA sequence as parts of a sentence that has been chopped into many overlapping pieces. These pieces have been scrambled so that the original sentence can no longer be understood. With the aid of a computer, these scrambled pieces

can easily be assembled into a meaningful sequence.

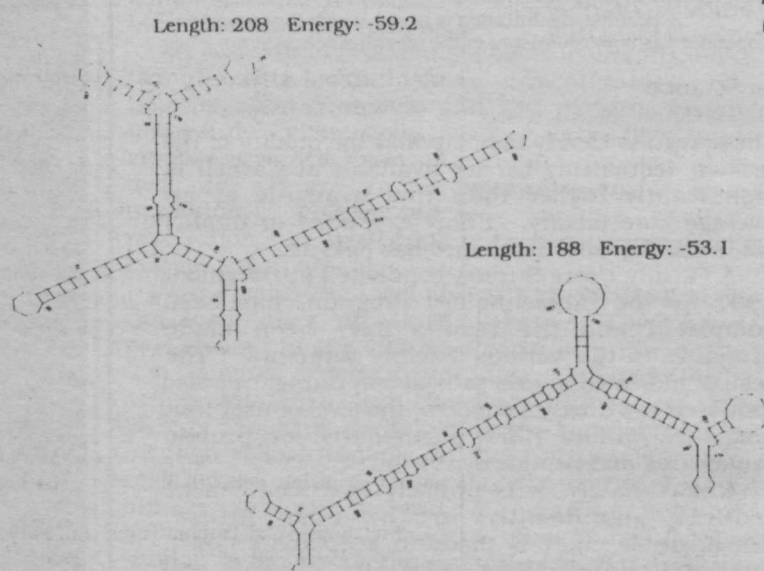
The Computer Facility also has graphics software and instrumentation that helps researchers determine and display the three dimensional structure of proteins. A program written by Dr. Andy Karplus in the section of Biochemistry, Molecular, and Cell Biology, allows the user to build a three dimensional model of a protein from x-ray crys-

tallography data. Other tools permit the design of new proteins by modifying proteins of known structure.

The Computer Facility is directed by Dr. Martha (Marty) Schrier, and new staff member Barr Ticknor is available for consultation three afternoons per week. The Facility will continue to offer classes on DNA and protein sequence analysis using the GCG package; so far, nearly 50 stu-

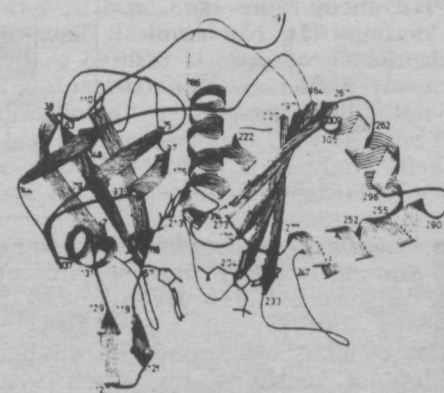
dents and staff members have taken the course with Patti Grandoni, a former staff member.

Because the main computer in the Computer Facility is a node on the Cornell campus network, users need not visit the Facility to run the programs necessary for their research. A computer with simple terminal emulation software and a network connection or modem is all that is needed.



SQUIGGLES, one of many functions in the GCG software package, can generate possible secondary structures for single-stranded nucleic acids. Shown are alternative structures from two overlapping regions of RNA.

The secondary structure of proteins can be represented in many ways. This figure shows a ribbon structure in which α -helices and β -sheets of the protein are emphasized [P.A. Karplus, M.J. Daniels, J.R. Herriott, Science 255, 60 (1991)].



Plant Tissue Culture and Transformation Facility

In the mid-1980's Cornell professors John Sanford and Ed Wolf invented the particle gun, and coined a new term "biolistics" to describe the process in which tiny tungsten particles are coated with DNA and accelerated to high velocity so that they can penetrate plant cells and carry DNA inside the cell. Once inside the cell, the injected DNA can interact with DNA in the nucleus and potentially alter the characteristics of the cell. This is just one of several techniques used to transform plant cells in the Plant Tissue Culture and Transformation Facility of the Plant Science Center.

The Cornell Plant Science Center, funded by the National Science Foundation/U.S. Department of Agriculture/Department of Energy Plant Science Centers program has several components. These include 1) a fellowship program for new and advanced graduate students, 2) a summer undergraduate research program, 3) a research

program that supports postdoctoral fellows doing research in the area of experimental transfer and analysis of plant genes, and 4) the Plant Tissue Culture and Transformation Facility.

The Plant Tissue Culture and Transformation Facility is primarily an educational facility, which provides instruction and consultation on protocols for gene transfer into plants. These methods include the particle gun, mentioned above, as well as physical and chemical procedures for introducing DNA into plant protoplasts (plant cells whose walls have been removed). When protoplasts are exposed to chemicals (polyethylene glycol) or electric shock, they take up DNA from solution and may incorporate new genes into their chromosomes.

A "tamed" plant pathogen (*Agrobacterium tumefaciens*) provides an efficient biological means to transform dicots (plant species including bean, tomato, broccoli and many other vegetable crops). During the course of a normal infection, this plant pathogen transfers some of its DNA to the plant cell. Extensive genetic engineering allows this plant pathogen to carry foreign genes, from any organism, ranging from bacteria to mammals, into plant cells. The Facility offers instruction in relevant procedures and maintains a small collection of plasmid DNA and bacterial strains for performing such gene transfer experiments.

With increasing federal research emphasis on the elucidation of genome structure, the Plant Tissue Culture and Transformation Facility has acquired two hexagonal pulsed field electrophoresis units, which can be used to separate very large DNA molecules on the basis of size. Programmable over a variety of conditions, linear DNA molecules ranging in length from 10,000 to 1,000,000 base pairs can be resolved.

In addition to Cornell scientists and students, Plant Science Center users include New York State scientists from industry and academia, other U.S. scientists, and numerous foreign visitors. Visits range from a few hours to several weeks. The Facility has run several workshops on the particle gun, specialized workshops on techniques in plant molecular biology, and has contributed to and

organized several international conferences. A favorite stop on campus tours for distinguished alumni and friends, the Facility has also organized



Many visitors tour the Plant Tissue Culture and Transformation Facility. Shown (L-R) are Maureen Hanson (Director of the Plant Science Center), Karen Kindle (Facility Director), and Geraldine Ferraro. (Photo: P. Morenus).



Suspension cultures are clumps of plant cells grown in liquid tissue culture medium. Cells in this form have certain advantages for biochemical studies and gene transfer work.

several workshops for students from area high schools and participates in the Cornell Institute for Biology Teachers' program for teachers and high school students. A new teaching initiative is under way and will include workshops or minicourses on general and specialized topics in plant molecular biology. Its staff includes Facility Director Karen Kindle and Research Support specialists Jim Blankenship and Rody Spivey.

CORNELL Employment News

Volume 4 Number 7 February 20, 1992

Published
by the
Office of
Human Resources

Break Up Those Mid-Winter Doldrums with the Power of Positive Insanity

Wellness Program Presents Allen Klein, March 5

The third annual *Power of Positive Insanity* workshop will be presented on March 5. Allen Klein, a nationally recognized speaker and humor educator, will present the workshop "Bye Bye Burnout: Lighten Your Work with Laughter." Through this presentation Klein will illustrate how humor can be used to help cope with the stressful events in and out of work. His message is that adults need to reclaim their lost laughter and to take humor seriously and serious things humorously. "Adults average 15 laughs a day," he says. "Children laugh 400 times a day. Somewhere between childhood and adulthood, we lose 385 laughs a day."

Klein will present two similar sessions:

2:30-3:30 p.m. **Helen Newman Hall Lounge**

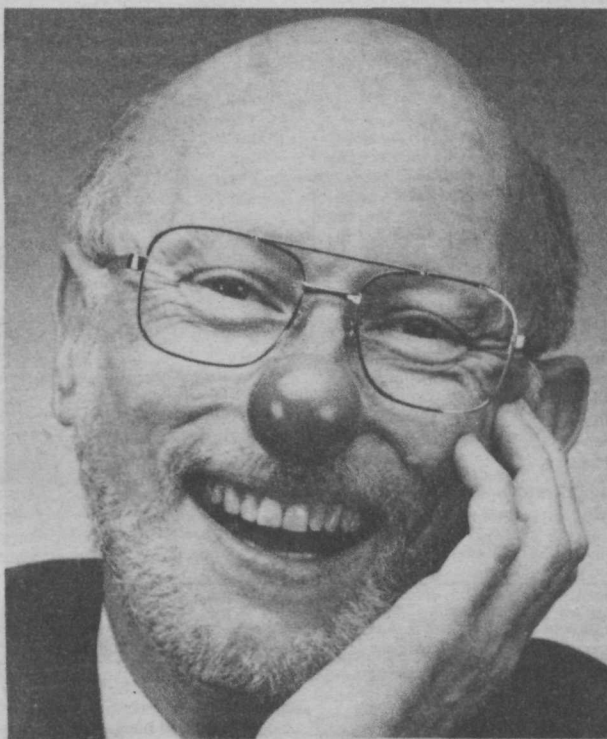
Designed primarily to address the needs of a student audience

4:45-5:45 p.m. **Statler Hall Auditorium**

Designed primarily to address the needs of employees.

Both sessions are free and open to the public.

Klein's material is derived from his experience as a health care professional, as a director of the Life/Death Transitions Institute, and as a scenic designer for "Captain Kangaroo." Klein has been the focus of numerous radio and television interviews and newspaper articles, and his writing has appeared in such publications as *Prevention*, *The San Francisco Chronicle/Examiner*, *The Toastmaster*, and *The American Journal of Hospice Care*. He publishes *The Whole Mirth Catalog*, a mail order compendium of fundraising items, and is the author of two books, *The Healing*



Allen Klein

Power of Humor and Up Words for Down Days.

For more information, feel free to call the Wellness Program, 255-5133.

The Working Families Subcommittee of
The Advisory Committee for the Status
of Women Presents a Brown Bag
Luncheon Featuring Speaker

Marilee Bell

to discuss

Work and Family Issues at Cornell

Tuesday, February 25, 1992, Noon to
1:00 p.m., Biotech. Building Lounge

Luncheon is available in the foyer. Please bring a friend and discuss your concerns and issues about this important topic.

Dr. Marilee Bell is the program director for the Working Families Program. She reports directly to Associate Vice President Joycelyn Hart.

Teleconference, "Beyond the Facts: Promoting Sexual Health in Campus Communities," to Be Held February 25th

On February 25, from 12:30 to 5 p.m., Cornell faculty, staff, and students will have the opportunity to participate in a teleconference, "Beyond the Facts: Promoting Sexual Health in Campus Communities." The teleconference will be held in the ILR Conference Center, Ives 120, and will cover the information, concerns, issues, and demands that sexual issues present to the community. The featured presenter will be Dr. Richard Kelling, director of Student Health and Associate Professor of Internal Medicine at the University of Virginia. For more information about the conference and for registration, please call the Health Education Office at 255-4782.

Summary Annual Reports of Benefit Plans

The Employee Retirement Income Security Act of 1974 (ERISA) requires that an annual report for each employee benefit plan covered by ERISA be filed with the Internal Revenue Service. In addition, ERISA also requires that summaries of these reports be distributed to plan participants.

The following summaries present all information required and conform with the style and content requirements of the U.S. Department of Labor.

Summary Annual Reports

Given below are the summaries of the annual reports for Cornell University's (EIN 15-0532082) employee benefit plans for the period July 1, 1990 to June 30, 1991, unless otherwise specified. These annual reports have been filed with the Internal Revenue Service, as required under the Employee Retirement Income Security Act of 1974 (ERISA).

Plan No.	Plan Name	Plan Year End
001	Cornell University Retirement Plan for Endowed Employees	6/30
003	Tax Deferred Plan	6/30
006	Retirement Plan for Non-exempt Employees of the Endowed Colleges at Ithaca	6/30
501	Cornell Children's Tuition Scholarship Plan	6/30
502	Cornell Health Care Plan for Endowed Employees	6/30
506	Group Life Insurance Plan	6/30
508	Long Term Disability Plan	6/30
513	Air Travel Insurance Plan	2/07

Cornell-Funded Plan

Cornell Children's Tuition Scholarship Plan - Plan No. 501

Basic Financial Statement

Plan expenses were \$4,370,103. These expenses included \$1,562,248 in benefits paid to other institutions for eligible students and \$2,807,855 in benefits paid by internal transfer of funds for eligible students attending Cornell University.

Welfare Insured Plans

Cornell Health Care Plan for Endowed Employees - Plan No. 502

Insurance Information

The plan has a contract with Aetna Life Insurance Company to pay all hospitalization, surgical/medical prescription drug, and major medical claims incurred under the terms of the plan. The plan is self insured. The plan pays the actual claim expenses incurred by participants. In addition, a monthly premium is paid to Aetna for administering the benefits.

For the plan year ending June 30, 1991, the total amount of claims payments was \$15,251,379 while the premiums paid to Aetna for administering the benefits were \$1,048,902.

Group Life Insurance Plan - Plan No. 506

Insurance Information

The plan has a contract with the Equitable Life Assurance Society of the United States which pays all death benefits incurred under the terms of the plan. The plan pays the actual claim expenses incurred by participants, up to a "paid claim liability limit," a predetermined cap on the amount of university funded claims. In addition, a monthly premium is paid to Equitable for administering the benefits.

For the plan year ending June 30, 1991, the total amount of claims charge was \$2,487,177 while the premiums paid to Equitable for administering the benefits was \$70,818.

Long Term Disability Plan - Plan No. 508

Insurance Information

The plan, which took effect on July 1, 1990, is operated under a contract with The Equitable Life Assurance Society of the United States to pay certain long term disability claims incurred under the terms of the plan.

Because it is an "experience-rated" contract, the premium costs are affected by, among other things, the number and size of claims. The total insurance premiums paid for the plan year ending June 30, 1991 under the "experience-rated" contract was \$921,176. The total of all benefit claims under the "experience-rated" contract during the plan year was \$5,909.

Self-Insured Long Term Disability Leave of Absence Plan

This portion of the coverage is the Long Term Disability Plan which was in effect prior to January 1, 1980. Cornell University has committed itself to certain long term disability claims incurred under the terms of this plan.

Basic Financial Information

During the plan year, the plan had total income of \$13,233 from employer contributions.

Plan expenses were \$13,233 in benefits paid to participants. This plan will continue to pay benefits to participants who became eligible for such benefits prior to the adoption of the new Long Term Disability Plan described above.

Air Travel Insurance Plan - Plan No. 513

The summary of the Air Travel Insurance Plan is for the period February 7, 1988 to February 7, 1989.

The plan has a contract with the Continental Casualty Company to pay all air travel death and dismemberment claims incurred under the terms of the plan. The total premiums paid for the plan year ending February 7, 1991, were \$18,257.

Retirement Plans

Retirement Plan for Faculty and Exempt Employees of the Endowed Colleges (TIAA/CREF) - Plan No. 001

Basic Financial Statement

Benefits under the plan are provided by individually owned, fully vested annuity contracts issued by Teachers Insurance Annuity Association and College Retirement Equity Fund (TIAA/CREF). The total premiums paid on behalf of individual policyholders for the plan year ending June 30, 1991, were \$17,268,713.

Tax-Deferred Plan - Plan No. 003

Basic Financial Statement

Benefits under this voluntary plan are provided by individually owned, fully vested annuity contracts issued by Teachers Insurance Annuity Association and College Retirement Equity Fund (TIAA/CREF).

Summary Continued from page 1e

tirement Equity Fund (TIAA/CREF) UNUM (Union Mutual Life Company), Equitable Life Assurance, Fidelity Group, and Dreyfus Corporation. The total premiums, paid entirely by plan participants, for the plan year ending June 30, 1991, were \$2,335,498.

Retirement Plan for Nonexempt Employees of the Endowed Colleges at Ithaca - Plan No. 006

Basic Financial Statement

Benefits under the plan are provided by a trust agreement with Morgan Guaranty Trust. Plan expenses were \$2,007,454 in benefits paid to participants and beneficiaries. A total of 2,513 persons were participants in or beneficiaries of the plan at the end of the plan year, although not all of these persons had yet earned the right to receive benefits.

The value of plan assets, after subtracting liabilities of the plan, was \$14,934,207 as of the end of the plan year, compared to \$14,476,037 as of the beginning of the plan

year. During the plan year, the plan experienced an increase in its net assets of \$458,170. This increase includes unrealized appreciation or depreciation in the value of plan assets; that is, the difference between the value of the plan's assets at the end of the year and the value of the assets at the beginning of the year or the cost of the assets acquired during the year. The plan had total income of \$2,465,624 including employer contributions of \$877,264, gains of \$571,408 in the sale of assets, and earnings from investments of \$1,016,752.

Minimum Funding Requirements

The actuary's statement shows that enough money was contributed to the plan to keep it funded in accordance with the minimum funding standards of ERISA. The plan's actuary is Towers, Perrin, Forester and Crosby of Boston, Massachusetts.

Your Right to Additional Information

You have the right to receive copies of all of the full Annual Reports, or any parts thereof, on request. The items listed below are included in those reports:

1. Insurance information, including sale commissions paid by insurance carriers.
2. An accountant's report.
3. Actuarial information regarding the funding of the Retirement Plan for Nonexempt Employees

To obtain copies of the full Annual Reports, or any parts thereof, write or call Employee Benefits, Office of Human Resources, 130 Day Hall, Ithaca, NY 14853 (607)255-7508. The charge to cover copying costs will be \$1.00 for a full Annual Report or .10¢ per page for any parts thereof.

You also have the legally protected right to examine the Annual Reports at the main office of the plan administrator at the Office of Human Resources, 130 Day Hall, Ithaca, NY and at the U.S. Department of Labor in Washington, D.C., or to obtain copies from the U.S. Department of Labor upon payment of copying costs. Requests to the department should be addressed to: Public Disclosure Room, N4677, Pension and Welfare Benefits Program, Department of Labor, 200 Constitution Ave., N.W., Washington, D.C. 20216.

If you have any questions regarding any of the information presented in this summary, please contact Employee Benefits at 255-6884.

JOB OPPORTUNITIES

Staffing Services, 160 Day Hall, Cornell University, Ithaca NY 14853-2801
Day Hall: (607) 255-5226
East Hill Plaza: (607) 255-7422

- Employees may apply for any posted position with an Employee Transfer Application. A resumé and cover letter, specifying the job title, department and job number, are recommended. Career counseling interviews are available by appointment.
- Requests for referral and/or cover letters are not accepted from external candidates unless specified in the ad. Candidates should submit a completed and signed employment application which will remain active 4 months. Interviews are conducted by appointment only.
- Staffing Services will acknowledge receipt of all material by mail. Hiring supervisors will contact those individuals selected for interview by phone; please include two or more numbers if possible. When the position is filled, candidates should receive notification from the hiring supervisor.
- Cornell University is an equal-opportunity, affirmative-action educator and employer.
- Job Opportunities can be found on CUINFO

Professional

Nonacademic professional positions encompass a wide variety of fields including management, research support, computing, development, finance and accounting, dining services and health care.
All external candidates must have a completed signed employment application on file with Staffing before they can be interviewed for a position.
Submit a resume and cover letter for each position, specifying the job title, department and job number. Employees should include an Employee Transfer Application.

**Director of Public Affairs (PA0503) HRIII
Public Affairs-Arts and Sciences-Endowed
Posting Date: 2/6/92**
Overall responsibility for the design, implementation, and direction of all public affairs activities, programs, and organizations for the college. In conjunction with the university development and alumni affairs offices, the director will develop and set fund raising strategies and alumni programs designed to accomplish the Colleges goals as set by the Dean in the broader context of the university's goals and objectives.
Requirements: Bachelors degree, advanced degree preferred. 3-5 yrs. experience with preference for an individual with capital campaign experience. Experience in working with volunteer groups. Strong managerial abilities with proven team-building skills, interpersonal, oral and written communications skills. Travel required. Send cover letter and resume to Cynthia Smithbower.

**Senior Technical Advisor/Security Officer (PT0101)
Level 40
Cornell Information Technologies-Endowed
Posting Date: 1/9/92**
Assess and monitor the security of Cornell's computers, networks, and data, and advise, train, and coordinate department liaisons on procedures for ensuring the continued security of these systems and data. Work with cit management, Cornell's Audit office, the University Computers and Networks Security Committee, and other university representatives to establish and promulgate security policies. Serve departments as a key resource, especially in regard to local, state, and federal regulatory conditions and changes affecting the university.
Requirements: BS degree or equivalent and 10 yrs. relevant experience with knowledge of audit procedures. In-depth knowledge of security policies and procedures and network systems appropriate to university environments is essential. Familiarity with local, state, and federal regulations is a plus. Send cover letter and 2 resumes to Sam Weeks.

**Manager, Computer Facility Operations (PT0602)
Level 37
Theory Center-Endowed
Posting Date: 2/13/92**
Provide administration of the computer facility which supplies advanced scientific computer resources to a national base of users. The facility includes advanced technology supercomputers, mainframes, minicomputers, networking equipment and associated peripherals. Oversee operations planning and implement operational procedures. Provide management and direction to operations staff.
Requirements: Bachelors degree or equivalent. Minimum 7 yrs. experience in the overall operation and management of a large computer facility. In depth technical knowledge of various operating systems, especially UNIX, VM/XA or VM/ESA, and CMS. Experience with multiple machine architectures. Send cover letter and 2 resumes to Sam Weeks.

**Systems Manager (PT0705) Level 36
Network Resources/Telecommunications-Endowed
Posting Date: 2/20/92**
Responsible for the operation of Telecom support systems (personal computers, network connections, and

microprocessors). Supervise support staff. Assist other departments with campus data communications integration.
Requirements: BS degree or equivalent in computer science or related field. 5-7 yrs. related experience. Knowledge of applications for administrative systems, database management systems, machine architecture and system utility programs. Demonstrated proficiency with ADABAS, Natural and COBOL; and MVS, JCL, VM/CMS, and UNIX. Experience with other languages and operating systems helpful. Broad exposure to personal computer systems and mainframes required. Send cover letter and resume to Sam Weeks.

**Senior Systems Programmer (PT0414) Level 35
Theory Center-Endowed
Posting Date: 1/30/92**
Provide technical support for various Theory Center high-performance computing systems, their operating systems and major sub-systems. Provide technical leadership in the design, implementation, maintenance, and documentation of modifications and enhancements to these systems. Provide functional guidance to less experienced technical support staff.
Requirements: B.S. in computer science or equivalent, M.S. preferred. 4-5 years experience in operating systems maintenance and support, programming languages, and high-performance computing techniques and procedures. Significant experience with Unix operating systems and computer systems. Knowledge of C, UNIX utilities, and system calls essential. Familiarity with other operating systems and computing environments. Send cover letter and 2 resumes to Sam Weeks.

**Systems Programmer III (PT0413) Level 34
Theory Center-Endowed
Posting Date: 1/30/92**
Provide technical support for various Theory Center high-performance computing systems, their operating systems and major sub-systems. Specify, design, implement, document and maintain necessary functional enhancements to these systems.
Requirements: B.S. degree in computer science or equivalent combination of education and experience. 3-5 years experience in operating systems maintenance and support, programming languages, and high-performance computing techniques and procedures. Knowledge of C, UNIX utilities, and system calls highly desirable. Familiarity with other operating systems and computing environments highly desirable. Strong communication skills. Send cover letter and 2 resumes to Sam Weeks.

**Cost Analyst (PA0601,2) HRII
Cost Analysis Department-Endowed
Posting Date: 2/13/92**
The Cost Analyst reports to the Manager, Cost Analyst and is responsible for a number of key financial analyses as well as providing staff support to the Controller.
Requirements: MBA with 3-5 yrs. experience in cost/financial analysis is required. Relevant experience or professional license may be substituted for graduate degree. Send cover letter and resume to Cynthia Smithbower.

**Assistant Cost Analyst (PA0603) HRII
Cost Analysis Department-Endowed
Posting Date: 2/13/92**
The Cost Analyst reports to the Manager, Cost Analyst and is responsible for a number of key financial analyses as well as providing staff support to the Controller.
Requirements: A bachelors degree in an appropriate field. 2-3 yrs. related experience in cost accounting. Send cover letter and resume to Cynthia Smithbower.

**Statistical Consultant (PT0405) HRII
Human Ecology Administration-Statutory
Posting Date: 1/30/92**
Assist the Director of Computing and Statistical consulting in providing statistical support and consulting for faculty and grad students in Human Ecology and

Nutritional Sciences. Assist with grad student instruction and training. Test and develop statistical software.
Requirements: B.S. in biometry or statistics (or equivalent) with research experience, MS preferred. Understanding of basic and advanced statistical methods and research design. Knowledge of computer operating systems or programming on mainframes and microcomputers. Strong service orientation and good oral and written communication skills. Send cover letter and 2 resumes to Sam Weeks.

**Project Coordinator III (PT0410) HRIII
Natural Resources-Statutory
Posting Date: 1/30/92**
Coordinate on and off campus activities for a program on ecological and social changes in Latin America. Facilitate graduate education and research. Establish a field course in costa Rica and the Dominican Republic for participating students and faculty to work on-site with native scholars and professionals on multidisciplinary conservation problems. Help expand the program by writing grant proposals. Requires travel to Central America.
Requirements: M.S. degree or equivalent in a conservation related field, PhD degree desirable. Capable of working in multidisciplinary environment. Work experience in Latin America. Administrative experience and proven grantsmanship. Good interpersonal skills. Fluent in Spanish. Send cover letter and 2 resumes to Sam Weeks.

**Accountant III (PC0409) HRII
CIT/M&BO-Endowed
Posting Date: 1/30/92**
Under general supervision help identify, plan, and develop M&BO financial management and business operations systems. Prepare specifications, document and maintain systems. Supervises financial support staff.
Requirements: Bachelors in accounting, MS preferred. Indepth knowledge of accounting. 3-5 years proven accounting experience plus knowledge of micro and mainframe computer applications important. Excellent communication (written and oral), interpersonal and organizational skills. Knowledge of university accounting system desirable. Send cover letter and resume to Esther Smith, Staffing Services, East Hill Plaza #2. Employees should include an employee transfer application.

**Staff Writer (PC0704) HRI
Transportation Services-Endowed
Posting Date: 2/20/92**
Develop, coordinate and implement internal and external communications and training for the department. Function as a trainer, writer and liaison to ensure the positive image of the department through communications which are professional and representative of legendary service.
Requirements: Bachelors degree required. Excellent oral and written communications. Familiarity with Cornell transportation system preferred. Marketing or public relations experience preferably in a university setting. Familiarity with Macintosh computers, word processing and desk top publishing required. Regular CU employees preferred. Send employee transfer application, cover letter and resume to Esther Smith, Staffing Services, East Hill Plaza #2

**Assistant Regional Director (PA0605) HRI
Public Affairs Regional Office-Endowed
Posting Date: 2/13/92**
Assist the Director of NY/Ontario Regional Office in assuring implementation of the university's development, alumni affairs, college/unit, admissions and other programs that involve university alumni and friends.
Requirements: Bachelors degree-preferably from Cornell. 1-2 yrs. experience in university development or alumni affairs. Send cover letter and resume to Cynthia Smithbower.

**Transportation Planner (PA0702) HRI
Transportation Services-Endowed
Posting Date: 2/20/92**
Provide planning support to the department by collecting, interpreting and analyzing data related to Transportation Services. Coordinates transportation planning with community agencies.
Requirements: Masters degree in city and regional planning with concentration in transportation required. civil engineering degree helpful. 2 yrs. experience in a public or private planning department, good oral and written communication skills, experience with microcomputers and mainframe applications and transportation modeling software. Send cover letter and resume to Cynthia Smithbower.

**Research Support Specialist I (PT0706) HRI
Veterinary Pathology-Statutory
Posting Date: 2/20/92**
Provide technical support and investigative assistance to flow cytometry labs. Plan and execute experiments. Supervise staff. Provide data analysis.
Requirements: BS degree in the biological sciences, MS preferred. Knowledge of techniques related to flow cytometry and tissue culture. Skills in interpersonal communications and supervision. Send cover letter and resume to Sam Weeks.

**Assistant Regional Director (PA0604) HRI
Public Affairs Regional Office, Metro New York Regional Office, NYC-Endowed
Posing Date: 2/13/92**
Assist the Director of Metro New York Regional Office in assuring implementation of the university's development, alumni affairs, college/unit, admissions and other programs that involve university alumni and friends.
Requirements: Bachelors degree. 1-2 yrs. experience in university development or alumni affairs. Send cover letter and resume to Cynthia Smithbower.

**Research Support Specialist II (PT0501) HRI
Section of Ecology and Systematics-Endowed
Posting Date: 2/6/92**
Participate in design, running, and analysis of laboratory experiments on zooplankton life histories. Maintain zooplankton and phytoplankton cultures. Enumerate field samples. Organize field trips.
Requirements: Bachelor's degree in Biological Sciences or related field. Advanced degree preferred. Must have ability to work independently. Experience in freshwater plankton research and data manipulation preferred, but training will be provided if required. Send cover letter and 2 resumes to Sam Weeks.

Professional Part-time Temporary

**Technical Consultant I (PT9103)
CIT-Endowed
Posting Date: 11/14/91**
Provide support for faculty, staff, students, and potential users by delivering technical information on five supported platforms (IBM-PC, IBM mainframe, Macintosh, VAX mainframe, and telecommunications). Resolve problems concerning the technical aspects of a diverse set of hardware and software applications. Direct clients to services within Cornell Informations Technologies and facilitate back line consulting services. Provide support via service on the Help Desk, group and individual contacts, etc. Irregular Hours, Monday-Friday 12:30am-4:30pm, occasional Saturday.
Requirements: BS degree or equivalent. Course work in computer science, business, education preferred. 1-3 yrs. of computing service delivery (consulting, instruction, or related client support services). Outstanding oral and written communication skills. Send cover letter and resume to Sam Weeks.

Boyce Thompson

Part-time Laboratory Assistant
Boyce Thompson Institute for Plant Research
Minimum \$5.76 p/hour, 15-20 hrs. per week
Posting Date: 2/20/92
Duties include: preparing solutions, assisting in gene-gun and molecular biology experiments, preparation of DNA, RNA, proteins and electrophoresis DNA sequencing. Other duties as required.
Requirements: Ability to work under supervision and in a laboratory environment. Contact Ann Zientek, 254-1239

Technical

As a prominent research institution, Cornell has a diverse need for laboratory, electro/mechanical and computer support. Individuals with backgrounds in computer science, biology, microbiology, chemistry, animal husbandry, plant science and medical laboratory techniques are encouraged to apply; applicants with ASCP or AHT licenses are in particular demand. All external candidates must have a completed signed employment application on file with Staffing before they can be interviewed for a position. Send a cover letter and resume for each position, specifying the job title, department and job number, to Sam Weeks, 160 Day Hall. Skill assessment check lists, available at the Day Hall office, are a valuable aid when applying for computer or laboratory related positions.

Animal Technician GR18 (T0702)
Equine Drug Testing-Endowed
Minimum Biweekly Salary-\$542.89
Posting Date: 2/14/92
Groom and care for horses. Collect blood and urine samples. Treat cuts and abrasions. Clean and repair harnesses. Clean barn and equipment. Repair fences, mow and do other farm chores. Keep records of drug administration trials.
Requirements: High School diploma or equivalent, AAS degree preferred. Minimum 1 yr. related experience. Ability to use vacutainer for blood samples and to catheterize mares. Pre-employment physical required. Send cover letter and resume to Sam Weeks.

Technician GR18 (T0209)
Food Science-Statutory
Minimum Biweekly Salary: \$542.89
Posting Date: 1/16/92
Conduct routine chemical analyses of milk and dairy products. Use Lotus 1-2-3 for data summarization.
Requirements: Associates degree in dairy technology or food science. Minimum 1 yr. related experience. Course and laboratory class training in routine dairy product analyses (i.e. Kjeldahl, Mojonnier, Babcock). Send cover letter and resume to Sam Weeks.

Technician GR19 (T9404)
Agriculture and Biological Engineering-Statutory
Minimum Biweekly Salary: \$566.28
Posting Date: 12/12/91 Repost
Provide technical support in greenhouse and field research on pest control. Set up and run experiments related to chemical application methods and operator safety. Take plant and protective clothing samples and analyze chemical coverage, deposition, and distribution. Participate in cooperative extension education activities and programs on accurate, effective and safe application of pest control materials. Some overnight travel required.
Requirements: AAS degree in physical, biological or plant sciences field. Some course work related to IPM and pest control would be helpful. Familiarity with basic lab procedures and equipment such as fluorometer, spectrophotometer, and balance. Microcomputer operation including spreadsheet and data analysis software. Send cover letter and resume to Sam Weeks.

Technician GR19 (T0307)
Food Science-Statutory
Minimum Biweekly Salary: \$566.28
Posting Date: 1/23/92
Provide technical assistance to the extrusion research program in the form of set-up, operation and maintenance of a twin-screw extruder. Write reports, analyze computer data, and perform routine product analyses related to extrusion research. Obtain supplies.
Requirements: AAS in engineering technology, food technology or other related science. 1 yr. experience in food or other processing environment and/or computer data acquisition systems, spreadsheets, and word processing is required. Heavy lifting is required. Send cover and resume to Sam Weeks.

Technician GR20 (T0406)
Biochemistry, Molecular, & Cell Biology-Statutory
Minimum Biweekly Salary: \$590.45
Posting Date: 1/30/92
Provide technical support to molecular and cell biology research lab working on the effect of oncogenes on cultured cells. Perform basic techniques in recombinant DNA, cell culture, microscopic examination of stained cells, and enzyme and protein assays. Maintain cell culture facility. Keep accurate records of experiments and write reports.
Requirements: B.S. degree in biology or equivalent with background in biochemistry and cell biology or cell physiology. 1-2 years experience in lab recombinant DNA techniques. Send cover letter and resume to Sam Weeks.

Animal Health Technician GR20 (T9003)
Veterinary Medical Teaching Hospital-Statutory
Minimum Biweekly Salary: \$590.45
Posting Date: 11/7/91
Provide technical support for the Community Practice Service within the Small Animal Clinic. Provide emergency care and routine care including medications, grooming, bathing, and cage cleaning when necessary. Maintain supplies and equipment. Educate clients while admitting patients, taking histories, discharging patients, and explaining techniques for outpatient treatment. Supervise animal health technician externs. Assist in paper work. Assist and train veterinary students.
Requirements: AAS degree in Veterinary Technology with AHT NYS licensure (or eligible). 1-2 yrs. experience in clinical environment. Work with small animals preferred. Send cover letter and resume to Sam Weeks.

Technician GR20 (T0703)
QMPS-Statutory
Minimum Biweekly Salary: \$590.45
Posting Date: 2/20/92
Collect and culture milk samples for isolation of mastitis causing organisms. Perform microscopic examination of stained films or wet preparations. Identify mastitis organisms biochemically and serologically. Perform antibiotic sensitivity tests. Perform detailed protocols for research projects. Keep accurate records of procedures and results. Train vet students and techs in lab methods. Perform lab housekeeping duties.

Requirements: BS degree desired with background in microbiology. 1-2 years previous experience in diagnostic microbiology desired. Excellent knowledge of procedures used in microbiology labs. Some knowledge of computers helpful. Good interpersonal skills. Send cover letter and resume to Sam Weeks.

Technician GR21 (T0502)
Veterinary Microbiology-Statutory
Minimum Biweekly Salary: \$615.42
Posting Date: 2/6/92
Provide technical service to a virology/infectious diseases lab investigating viral/bacterial diseases of dogs. Prepare and maintain cell cultures, viruses, monoclonal antibodies and bacterial reagents. Conduct a variety of virologic, immunologic and bacteriological assays. Must be versatile and able to adapt to a variety of techniques. Must not be offended by euthanasia and autopsy of dogs.
Requirements: AB or BS in microbiology, biological science or equivalent. 2-3 yrs. experience in biology lab, cell culture and working with animals. Must be familiar with tissue culture, growing cells and making media. Send cover letter and resume to Sam Weeks.

Technician GR21 (T0601)
Clinical Pathology/Diagnostic Laboratory-Statutory
Minimum Biweekly Salary: \$615.42
Posting Date: 2/13/92
Perform tests in hematology, cytology, urinalysis, chemistry and immunology. Operate and maintain equipment, participate in "on call" coverage for "off-hours" and holidays. Use computer specimen accession, data entry and information retrieval.
Requirements: Associates in Medical Technology required; BS degree & ASCP certification preferred. 1-2 years general experience in clinical lab setting. Send cover and resume to Sam Weeks.

Technician GR22 (T0407)
Veterinary Microbiology-JABIAH-Statutory
Minimum Biweekly Salary: \$641.92
Posting Date: 1/30/92
Provide technical support for molecular biology and biochemical experiments support. Perform CDNA-RNA isolation, transformation, transfection, northern and southern blotting, DNA sequencing, PCR, immunoprecipitation, SDS-PAGE and autoradiography. Maintain supplies and lab; and keep records and protocols. Assist with experimental planning. Discuss results.
Requirements: B.S. in biochemistry, biology, chemistry, molecular biology or equivalent. 2 - 4 years related lab experience. Some computer experience helpful. Send cover letter and resume to Sam Weeks.

Technician GR22 (T0408)
Veterinary Microbiology-JABIAH-Statutory
Minimum Biweekly Salary: \$641.92
Posting Date: 1/30/92
Provide technical cell biology and immunological support. Perform cell isolations from blood and tissue. Set up primary culture. Freeze and thaw cell. Perform cell hybridization and cloning and a variety of immunological assays including immunofluorescence and ELISA. Schedule and design experiments from basic protocols. Compile, analyze and graph data. Keep records and maintain lab.
Requirements: B.S. degree or equivalent in cell biology, immunology or related field. 2-4 years related lab experience. A good working knowledge of standard lab procedures and the use of general lab equipment. Send cover letter and resume to Sam Weeks.

Lab Coordinator GR22 (T0704)
Genetics & Development-Statutory
Minimum Biweekly Salary: \$641.92
Posting Date: 2/20/92
Prepare media for Drosophila and bacterial genetic experiments; wash and autoclave bottles and vials. Maintain mutant strains and provide them to the lab students. Maintain equipment and order supplies. Conduct trial experiments. Instruct teaching assistants in lab operations. Supervise half-time technician.
Requirements: Bachelors in Biology or equivalent. 2-4 years lab experience in microbiology desirable. Excellent organizational skills: ability to work independently and able to lift 35 pounds. Send cover letter and resume to Sam Weeks.

Electronics Technician GR24 (T0403.4)
Telecommunications-Endowed
Minimum Biweekly Salary: \$701.22
Posting Date: 1/30/92
Provide technical support for the campus telecommunications systems. Assemble, install, test and maintain the systems' equipment and peripherals. Ensure the connection of ancillary hardware and coordinate the processes as needed.
Requirements: AAS degree or equivalent experience in electronics of related field. 2-3 years experience in installation and maintenance of telecom equipment including PBX. Considerable electronic testing skill and ability to read building and underground plant prints. Send cover letter and resume to Sam Weeks.

Technical Off Campus

Technician GR18 (T0701)
Plant Pathology (Geneva)-Statutory
Minimum Biweekly Salary: 542.89
Posting Date: 2/20/92
Assist in conducting plant tissue culture research. Prepare plant tissue culture media and other sterile supplies. Transfer and maintain tissue culture and greenhouse plants. Perform routine chemical assays and record results.
Requirements: Associate's degree in biology, biotechnology, microbiology, or plant pathology. Valid driver's license. Minimum 6 months-1 year training or experience in plant micropropagation and bacteriology or microbiology. Course work in genetics and chemistry. Ability to keep accurate records and to work without constant supervision. Send cover letter and resume to Sam Weeks.

Technical Part-time

Casual Animal Technician (T0603)
Division of Nutritional Sciences-Statutory
Minimum Biweekly Salary: \$6.80
Posting Date: 2/13/92
Assists in routine experiments, compiles records and data using computer, cares for rats; feeding, watering, cleaning and observing for disease; works independently. 10-15 hrs/week.
Requirements: Animal handling experience helpful. Send cover letter and resume to Sam Weeks.

Office Professionals

Approximately half of all University openings are for Office Professionals. Individuals with secretarial, word processing (IBM PC, Macintosh, Wang, Micom), data entry, technical typing, or medium to heavy typing (45-

60+ wpm) are encouraged to apply.
All external candidates must have a completed signed employment application on file with Staffing before they can be interviewed for a position. Employee candidates should submit an employee transfer application and cover letter, if requested, for each position in which they are interested.
Submit a signed employment application and resume which will remain active for a period of four months. During this time, you will be considered for any appropriate openings for which you are competitively qualified. Requests for referral and/or cover letters are not accepted from external candidates unless specified in the ad. Qualified applicants will be invited for a preliminary interview at our EHP office. If you are currently available for employment, you may want to consider temporary opportunities at the University. Please contact Karen Raponi at 255-2192 for details.

Secretary GR18 (C0605)
Cornell Cooperative Extension, Agriculture and Natural Resources Program Office-Statutory
Minimum Biweekly Salary: \$542.89
Posting Date: 2/13/92
Ability to function independently under the general supervision of the Administrative Aide/Office Manager of the Cornell Cooperative Extension Agriculture and Natural Resources Program Office. Provide secretarial support for a program coordinator assistant director and administrative aide/office manager; maintain computer skills and knowledge in order to utilize new technologies and adapt to new computer applications; must be able to work in a team setting.
Requirements: High School diploma or equivalent. Some college coursework preferred. 1-2 yrs. related experience. Ability to master networking system, IBM PS/2 computer, HP utilize features of computer networking system on a daily basis and keep informed of changes/updates to enable use on a daily basis. Medium typing. Send cover letter and resume to Esther Smith, Staffing Services, East Hill Plaza #2. Employees should include employee transfer application.

Telephone Receptionist GR18 (C0608)
Veterinary Medical Teaching Hospital-Statutory
Minimum Biweekly Salary: \$542.89
Posting Date: 2/13/92
Small Animal Clinic telephone reception. Responsible for scheduling appointments, taking messages, paging doctors, interacting with the public regarding general information. 39hr/week includes Saturday 8am-12:noon.
Requirements: High School diploma or equivalent. Some college coursework preferred. Medical terminology preferred. Familiarity with computers. Excellent telephone manners, prior experience required. Send cover letter and resume to Esther Smith, Staffing Services, East Hill Plaza #2. Employees should include employee transfer application.

Secretary GR18 (C0607)
Patents and Technology Marketing-Endowed
Minimum Biweekly Salary: \$542.89
Posting Date: 2/13/92
Provide secretarial, receptionist and clerical support for staff members in a law office environment. Greet visitors, screen calls, type, handle mail, copy, maintain accurate files. Other duties as assigned. Technical typing of patent applications.
Requirements: High School diploma or equivalent. Some college coursework preferred. 1-2 yrs. related experience. Strong secretarial, organizational, interpersonal, communication skills and confidentiality required. Accuracy and timeliness are essential. Ability to work under pressure with several interruptions. Must be able to use standard office business machines and strong knowledge of networking and IBM PC's or compatible (WP51). Heavy typing. Send cover letter and resume to Esther Smith, Staffing Services, East Hill Plaza #2. Employees should include employee transfer application.

Administrative Aide GR19 (C0701)
University Development-Endowed
Minimum Biweekly Salary: \$566.28
Posting Date: 2/20/92
Provide secretarial support and administrative assistance to the Assistant Director of the Office of Planned Giving. Type, edit and proofread materials written by the Assistant Director; maintain gift computer data base systems and prepare gift reports; assist in preparation of publications; conduct research; schedule appointments and make travel arrangements.
Requirements: High School diploma or equivalent. Some college coursework preferred. 1-2 yrs. work experience. Bookkeeping and accounting. Good typing skills. Knowledge of Macintosh computer. Good organizational and interpersonal skills. Ability to work independently and handle multiple projects simultaneously. Good command of written and spoken English. Medium typing. Send cover letter and resume to Esther Smith, Staffing Services, East Hill Plaza #2. Employees should include employee transfer application.

Secretary GR19 (C0606)
Agriculture and Biological Engineering-Statutory
Minimum Biweekly Salary: \$566.28
Posting Date: 2/13/92
Provide secretarial support to four faculty members at present. Responsibilities include classwork, technical typing (MathWriter software); travel arrangements and reimbursements; correspondence; answer call from county extension agents and general public; enter/revis research proposals and highly technical manuscripts, prepare text material for new publications along with computer and graphics.
Requirements: High School diploma or equivalent. Some college coursework in secretarial science. Familiarity and experience with Cooperative Extension desirable. Technical typing (greek symbols/equations). Minimum 2 yrs. of computer experience using word processing, technical, drawing, spreadsheet programs. Heavy typing. Send cover letter and resume to Esther Smith, Staffing Services, East Hill Plaza #2. Employees should include employee transfer application.

Secretary GR19 (C0507)
Ecology and Systematics-Endowed
Minimum Biweekly Salary: \$566.28
Posting Date: 2/6/92
Provide broad range of administrative/secretarial services to Chairman, Administrative manager, and building manager. Type and edit correspondence, reports, minutes, class materials, statistical tables and charts, etc.; draft routine correspondence; arrange meetings; prepare student appointments; answer telephones; act as receptionist; handle key distribution and records.
Requirements: High School diploma required. A.A.S. degree in Secretarial Science or equivalent preferred. Extensive secretarial/administrative experience, with experience at Cornell preferred. Macintosh or PC computer experience essential. Strong organizational, communication, and interpersonal skills. Ability to work independently, under pressure, and to coordinate multiple projects. Medium typing. Send cover letter and resume to Esther Smith, Staffing Services, East Hill Plaza #2. Employees should include employee transfer application.

Administrative Aide GR20 (C0214)
Public Affairs, Law School-Endowed
Minimum Biweekly Salary: \$590.45
Posting Date: 2/20/92
Provide secretarial and administrative support to the Associate Dean for Development and Public Affairs. Research and prepare complex special reports on budget matters and gift accounts; process bills and monitor all accounts for the Law School's Office of Development and Public Affairs; extensive contact with alumni and volunteers; handle Major gift, Special Gift, Law School Fund, and Unviersity Campaign correspondence.
Requirements: Associates degree or equivalent combination of education and experience. 2-3 yrs. related experience. Excellent typing, word processing, editing and interpersonal skills necessary. Experience with WordPerfect essential and experience with spreadsheet software preferred. Make travel arrangements. Ability to be self-directed and set priorities essential. Heavy typing. Send cover letter and resume to Esther Smith, Staffing Services, East Hill Plaza #2. Employees should include employee transfer application.

Administrative Aide GR20 (C0703)
University Development-Endowed
Minimum Biweekly Salary: \$590.45
Posting Date: 2/20/92
Provide administrative and secretarial assistance for the office of capital projects. Type, Edit and proofread materials; maintain accurate record of gifts and commitments; initiate requests for and track gift acknowledgments; prepare gift reports; make travel arrangements; schedule travel arrangements; schedule appointments; assist in preparation of mailings.
Requirements: Associates degree or equivalent. 2-3 yrs. related work experience. Bookkeeping/accounting experience desirable. Good typing skills required. Excellent organizational and interpersonal skills. Good command of written and spoken English. Knowledge of Macintosh PC helpful. Send cover letter and resume Esther Smith, Staffing Services, East Hill Plaza #2. Employees should include employee transfer application.

Administrative Aide GR20 (C0702)
School of Hotel Administration-Endowed
Minimum Biweekly Salary: \$590.45
Posting Date: 2/20/92
Under direct supervision of two staff members in the office of Executive Education. Schedule appointments for the Assistant Dean of Executive Education. Organize and coordinate special functions and projects as the Assistant Dean's representative (i.e.: orientation programs, speeches, domestic and foreign travel). Handle correspondence and documents of highly confidential nature for the Assistant Dean.
Requirements: Associates degree, or equivalent combination of education and training skills. 2-3 yrs. prior experience as administrative aide, or secretary highly desirable. Good knowledge of office practice essential. Excellent interpersonal and organizational skills. Ability to use computer and word processing equipment. Strong (written) communication skills, including knowledge of editing, excellent grammar skills. Medium typing. Send cover letter and resume to Esther Smith, Staffing Services, East Hill Plaza #2. Employees should include employee transfer application.

Administrative Aide GR20 (C0604)
Office of Sponsored Programs-Endowed
Minimum Biweekly Salary: 2/13/92
Posting Date: 2/13/92
Perform a broad range of secretarial and office administrative services in direct support of one or more grant and contract officers. Responsible for overall support of day-to-day heavy workload. Telephone coverage and follow-up; document generation and some writing; mail screening; prioritizing and some initiating of transactions; meeting and travel scheduling.
Requirements: Associates degree or equivalent. 2 yrs. related experience. Familiar with word processing, (preferably Microsoft Word for the Macintosh). Strong interpersonal and communication skills. Strong ability to organize and prioritize disparate and competing tasks. Attention to detail. Excellent proofing and writing skills. Knowledge of university procedures preferred. Medium typing. Send cover letter and resume to Esther Smith, Staffing Services, East Hill Plaza #2. Employees should include employee transfer application.

Administrative Aide GR20 (C9509)
Electronic Packaging Alliance and SRC Packaging Program-Endowed
Minimum Biweekly Salary: \$590.45
Posting Date: 2/6/92-repost
Provide administrative secretarial support and accounting for the industry-Cornell University Alliance for Electronic packaging, the SRC Packaging program and for 3 faculty.
Requirements: Associates degree or equivalent. 2-3 yrs. related experience. Excellent written and verbal communication skills. Interpersonal skills and ability to work independently are necessary. Excellent working knowledge of Mac software required: experience with IBM-PC software desirable. Must be able to work within time constraints of established deadlines. Familiar with Cornell accounting preferred. Medium typing. Cornell employees send employee transfer application, cover letter, and resume to Esther Smith, Staffing Services, East Hill Plaza #2.

Assistant Textbook Buyer GR21 (C0107)
Campus Store-Endowed
Minimum Biweekly Salary: \$615.42
Posting Date: 2/13/92
Under general supervision, assists the Senior Textbook Buyer in purchasing academic course books. Interacts with faculty and vendors regarding product availability and special orders. Responsible for organization and placement of 50,000 textbooks during biannual book rush. Provides customer services on sales floor as needed. Monday-Friday 8:30-5:30pm, occasional Saturday.
Requirements: Associates degree or equivalent level of education and experience. 2-3 yrs. experience in related field. Familiarity with microcomputers. Strong communication, organizational, and interpersonal skills. Send cover letter and resume to Esther Smith, Staffing Services, East Hill Plaza #2. Employees should include employee transfer application.

Administrative Aide GR22 (C0601)
School of Hotel Administration-Endowed
Minimum Biweekly Salary: \$641.92
Posting Date: 2/13/92
Under the direction of the program director of the professional development program (PDP), be responsible for the day-to-day administrative operations of the professional development program including registration, posting payment, accounting, tracking participants, maintaining accurate records, and preparing a variety of reports.
Requirements: Associates degree, or equivalent combination of education and training. Training in admissions, accounting, and bookkeeping required. Good organizational, detail, interpersonal, and communication skills. Computer skills essential. IBM essential. Medium typing. Send cover letter and resume to Esther Smith, Staffing Services, East Hill Plaza #2.

Employees should include employee transfer application.

Administrative Aide GR22 (C0602)
Mechanical and Aerospace Engineering-Endowed
Minimum Biweekly Salary: \$641.92
Posting Date: 2/13/92
Assist the project director in the overall management of the Cornell Injection Molding Program (CIMP). Manages all non-technical operations and services including project accounts; external program and industrial consortium; external dissemination of reports; research group including faculty, graduate students, postdoctoral and visiting personnel, collaborating industries, support staff; and conventional office operation.
Requirements: Associates degree or equivalent. 3-4 yrs. office experience including administrative and accounting skills. CU experience desirable. Medium typing. Send cover letter and resume to Esther Smith, Staffing Services, East Hill Plaza #2. Employees should include employee transfer application.

Administrative Aide GR22 (C0506)
School of Hotel Administration-Endowed
Minimum Biweekly Salary: \$641.92
Posting Date: 2/6/92
Provide administrative and coordination support to the Assistant Dean for External Affairs of the School of Hotel Administration.
Requirements: Associates degree. Minimum of 3-4 yrs. administrative experience. Excellent interpersonal and communications skills (verbal, written) required. Supervisory skills important. Confidentiality essential. Knowledge of word processor required. Abilities to organize, anticipate and solve diplomatically a wide variety of real or potential problems. Medium typing. Send cover letter and resume to Esther Smith, Staffing Services, East Hill Plaza #2. Employees should include employee transfer application.

Office Professional Part-time

Accounts Assistant GR18 (C9109)
Human Ecology, Field and International Study Program-Statutory
Minimum Full-time Equivalent: \$542.89
Posting Date: 2/20/92-Repост
Under direct supervision of Administrative Aide, is responsible for implementing approved program budget, processing and monitoring all program expenditures, and reporting any discrepancies to supervisor. 20hrs.flexible.
Requirements: High School diploma or equivalent Some college coursework in accounting desirable. 1-2 yrs. related experience. Organizational skills required. Attention to detail. Knowledge of Cornell accounting system preferred. IBM PC computer experience, including WP 5.1, D-base. Medium typing. Send cover letter and resume to Esther Smith, Staffing Services, East Hill Plaza #2. Employees should include employee transfer application.

Secretary GR18 (C0408)
Neurobiology and Behavior-Statutory
Minimum Full-time Equivalent: \$542.89
Posting Date: 1/30/92
Computer-based text and graphics processing and editing; ordering supplies and maintaining inventories; coordinating and trouble shooting administrative procedures; extending support to co-workers and staff for a large biology course. Student grades, generating exams and answers. Regular, part-time position, 20 hrs/wk, flexible.
Requirements: High School diploma, some college desirable. 1-2 years related experience. Experience with computers and office-based software or aptitude to learn specific software programs. High level of confidentiality. Heavy typing. Send cover letter and resume to Esther Smith, Staffing Services, East Hill Plaza #2. Employees should include an employee transfer application.

Office Assistant GR19 (C0603)
ILR-Office of Student Services-Statutory
Minimum Full-time Equivelent: \$566.28
Posting Date: 2/13/92
Provide administrative assistance to ILR registrar in areas of student record keeping, control and service. Responsible for classroom scheduling, and communicating academic policies and procedures. 31.2 hrs./week Monday-Friday.
Requirements: High School diploma or equivalent. Some college coursework preferred. 1-2 yrs. related work experience, preferably in an academic environment with office management and student record keeping. Experience with micro computers and knowledge of WordPerfect. Excellent communication and organizational skills. Proven ability to handle confidential information. Heavy typing or keyboarding. Heavy typing. Send cover letter and resume to Esther Smith, Staffing Services, East Hill Plaza #2. Employees should include employee transfer application.

Senior Night Supervisor GR20 (C0503)
Circulation/Engineering Library-Endowed
Minimum Full-time Equivalent: \$590.45
Posting Date: 2/6/92
Sole responsibility for and supervision of library and building staff, services, maintenance, and security during the evening and weekend hours. Supervise and operate circulation/ reserve activities and assist in training of students. Provide information referrals and some basic informational assistance. Friday 2:00pm-6:00pm, Saturday 10:00am-6:00pm, Sunday 3:00pm-12 midnight, Monday 5:00pm-12 midnight.
Requirements: Minimum 2 yrs. college coursework, successfully completed; BA strongly preferred. Supervisory and public service experience, some library experience strongly desired. Facility with personal computers. Ability to function well under pressure. Strong organizational and computer skills. Light typing. Send cover letter and resume to Esther Smith, Staffing Services, East Hill Plaza #2. Employees should include employee transfer application.

Office Professionals Temporary

In addition to posted positions, temporary opportunities occur in many occupational areas, including secretarial, word processing, accounting, and office administration. All individuals are encouraged to apply; experienced applicants with a typing speed of 45-60 wpm, knowledge of IBM-PC Word Perfect software and Macintosh word processing are in particular demand. Call Karen Raponi at (607) 255-2192 or 255-7422 for more information.

Administrative Aide (S0301)
Human Development and Family Studies
Casual Appointment/15 Hours Per Week
Posting Date: 1/23/92
Provide administrative and secretarial support to a faculty member in Human Development and Family Studies. Must be able to work independently and be self motivated. Ability to compose correspondence and conduct library research is a must.
Requirements: 1-2 yrs. related office experience is required. Use of Macintosh (preferably Microsoft word) is essential. Send cover letter and resume to Karen Raponi, Staffing Services, East Hill Plaza #2.

General Service

Submit a signed employment application which will remain active for a period of four months. During this time, you will be considered for any appropriate openings for which you are competitively qualified. Requests for referral and/or cover letters are not accepted from external candidates unless specified in the ad. Qualified applicants will be invited for a preliminary interview at our EHP office. If you are currently available for employment, you may want to consider temporary opportunities at the University. Please contact Karen Raponi at 255-2192 for details.

Food Service Worker SO01 (G0702)
Dining-Endowed, Regular full-time, 40 hrs/weekly
Hiring Rate: \$6.28
Posting Date: 2/20/92
Set-up, display and serve food and/or beverage. Check Co-op dining cards for validity and make sale transactions by cash or credit card. Shift subject to change.
Requirements: Knowledge of food preparation and presentation preferred. Good customer relations skills. Basic reading and computational skills required. Regular Cornell employees only. Regular Cornell employees send employee transfer applications to Esther Smith, Staffing Services, East Hill Plaza #2.

Food Service Worker SO01 (G0703)
Dining-Endowed, Regular full-time, 35 hrs/weekly
Hiring Rate: \$6.28
Posting Date: 2/20/92
Set-up, display and serve food and/or beverage. Check Co-op dining cards for validity and make sale transactions by cash or credit card. Shift subject to change.
Requirements: Knowledge of food preparation and presentation preferred. Good customer relations skills. Basic reading and computational skills required. Regular Cornell employees only. Regular Cornell employees send employee transfer applications to Esther Smith, Staffing Services, East Hill Plaza #2.

Dish Machine Operator SO02 (G0706)
Statler Hotel-Endowed
Hiring Rate: \$6.55
Posting Date: 2/20/92
Maintain a consistent supply of clean dishes, glassware, flatware, pots and silver. Keeps work area and garbage area at an acceptable level of neatness and cleanliness. 10 month appointment. Flexible nights and weekends.
Requirements: High School diploma or equivalent. Must be able to read and write and have basic math skills (counting, recording). Experience as a Dish Machine Operator desired. Regular Cornell employees only. Send employee transfer application to Esther Smith, Staffing Services, East Hill Plaza #2.

Short Order Cook SO04 (G0704.5)
Statler Hotel-Endowed
Hiring Rate: \$7.17
Posting Date: 2/20/92
Prepares breakfast and or lunch items in the club or student dining outlets. Works dinner operation as needed. 10 month appointment, flexible nights and weekends.
Requirements: High School diploma or equivalent. Basic reading and writing skills. 2-4 yrs. short order experience in high-volume operation required. Good interpersonal skills. Regular Cornell employees only. Send employee transfer application to Esther Smith, Staffing Services, East Hill Plaza #2.

Apprentice/Pump Specialist (G0402)
M & SO/Pipe Shop-Endowed
Posting Date: 1/30/92
To install, repair and maintain pumps and their associated components (i.e. switches, controllers, strainers, tanks, valve structure and alignment). Must prioritize workload to the satisfaction of customers (i.e. research projects, monetary concerns and temporary repairs). Other duties as assigned.
Requirements: Must maintain a valid membership in Trades Union Local as designated by the United Association or be willing to join within 30 days of employment. Must have and maintain a valid NYS driver's license. Send cover letter and resume to Esther Smith, Staffing Services, East Hill Plaza #2. Employees should include an employee transfer application. Deadline for applications is March 2, 1992.

General Service Part-time

Food Service Worker, SO01 (G0701)
Dining-Endowed, Regular part-time, 30 hrs./weekly
Hiring Rate: \$6.28
Posting Date: 2/20/92
Set-up, display and serve food and/or beverage. Check Co-op dining cards for validity and make sale transactions by cash or credit card. Shift subject to change.
Requirements: Knowledge of food preparation and presentation preferred. Good customer relations skills. Basic reading and computational skills required. Regular Cornell employees only. Send employee transfer application to Esther Smith, Staffing Services, East Hill Plaza #2.

General Service

Send application materials for the following positions to Cynthia Smithbower, Staffing Services, 160 Day Hall.

Groundsworker SO04 (B0705,6,7,8)
Plantations-Statutory
Hiring Rate: \$7.17
Posting Date: 2/20/92
Assist grounds maintenance staff in landscape maintenance and construction to include planting, mowing, weeding, mulching, watering, fertilizing, pruning, policing of grounds, maintenance of equipment, and maintenance of walls, steps, and fences. Until 12/28/92. Monday-Thursday 7:30-4:00, Friday 7:30-3:00.
Requirements: High School diploma or equivalent. Valid drivers license required. 1-2 yrs. work experience in park, arboretum, or botanical garden desired. Strong interest in horticulture and landscape construction required. Must be able to lift 100 lbs. and must be willing to work outside during all weather conditions. Send cover letter and resume to Cynthia Smithbower.

Groundsworker SO04 (B0709,10,11)
Plantations-Endowed
Hiring Rate: \$7.17
Posting Date: 2/20/92
Assist grounds maintenance staff in landscape maintenance and construction to include planting, mowing, weeding, mulching, watering, fertilizing, pruning, policing, of grounds, maintenance of equipment, and maintenance of walls, steps, and fences. Until 12/23/92. Monday-Thursday 7:30-4:00, Friday 7:30-3:00.
Requirements: High School diploma or equivalent required. Valid drivers license required. 1-2 yrs. work experience in park, arboretum, or botanical garden desired. Strong interest in horticulture and landscape construction required. Must be able to lift 100lbs. and must be willing to work outside during all weather conditions. Send cover letter and resume to Cynthia Smithbower.

Gardner SO04 (B0701,2,3)
Plantations-Statutory
Hourly Rate: \$7.17
Posting Date: 2/20/92
Assist gardening staff in the installation of new gardens and in the maintenance of existing gardens. Duties include garden cleanup, planting, fertilizing, mulching, watering, raking, and related tasks as plant labels, plant records, greenhouse care, and nursery maintenance. Monday - Thursday 7-3:30, Friday 7-2:30. Until October 28, 1992.
Requirements: High School diploma or equivalent. Valid drivers license required. 1-2 years work experience in park, arboretum, or botanical garden desired. Strong interest in horticulture and landscape construction required. Must be able to lift 100 pounds and must be willing to work outside during all weather conditions. Send cover letter and resume to Cynthia Smithbower.

Integrated Pest Management Coordinator SO09 (B0704)
Plantations-Statutory
Hourly Rate: \$9.17
Posting Date: 2/20/92
Under the direction of Curator, work with Plantations staff, Cornell University faculty in the plant sciences, and representatives of the IPM department at Geneva to design and implement an IPM program for the indoor and outdoor plant collections at Plantations.
Requirements: BS preferred in plant pathology, entomology, horticulture, or plant science. 1-2 years experience in a botanical garden, arboretum, or nursery required. Familiarity with basic word processing and data base management software required. Good organizational, interpersonal, writing, and communication skills essential. Send cover letter and resume to Cynthia Smithbower.

Select Benefits Claims Schedule 1992

Reminder: The deadline for remitting claims for reimbursement of expenses incurred during 1991 is March 31, 1992.
The cut-off dates for remitting claims for reimbursment under the Select Benefits program are listed below. Your claim form with supporting information must be received by either the endowed or statutory benefits office no later than the dates shown below. Reimbursement will be delayed until the next two-week cycle is completed if materials are not in our office by the cut-off date.

2/28	5/08	7/17	9/25	12/04
3/13	*5/21	7/31	10/09	*12/17
3/27	6/05	8/14	10/23	
4/10	6/19	*8/27	11/06	
4/24	7/02	9/11	*11/19	

*Early deadlines due to Memorial Day, Labor Day, Thanksgiving and winter holidays.

Weight Watchers at Work Program

Two new eight week Weight Watchers at Work programs will begin on Wednesday, March 3, from 12:00 noon to 1:00 and at 1:00 to 2:00. Both are at 250 Caldwell Hall. All employees are invited to join. For pre-registration or just to sit in join us on February 27. For additional information call Weight Watchers toll-free number 1-800-234-8080.

CORNELL
Employment News

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PAGE LAYOUT: Cheryl Seland
PHOTOGRAPHY: University Photography, Susan Boedicker

Published weekly except for one week each in January and November and two weeks in December by the Office of Human Resources, Cornell University, 14853. Distributed free and available to staff and faculty at locations around the campus.
Mail subscriptions available US delivery first class mail at \$12.00 for 3 months: \$18.00 for 6 months; or \$26.00 for 12 months. Make checks payable to: Staffing Services Subscription, 160 Day Hall, Cornell University, Ithaca, NY 14853.
It is the policy of Cornell University actively to support equality of educational and employment opportunity. No person shall be denied admission to any educational program or activity or be denied employment on the basis of any legally prohibited discrimination involving, but not limited to, such factors as race, color, creed, religion, national or ethnic origin, sex, sexual orientation, age, or handicap. The university is committed to the maintenance of affirmative-action programs that will assure the continuation of such equality of opportunity. Sexual harassment is an act of discrimination and, as such, will not be tolerated. Inquiries concerning the application of Title IX may be referred to Cornell's Title IX coordinator (coordinator of women's services) at the Office of Equal Opportunity, Cornell University, 234 Day Hall, Ithaca, NY 14853-2801 (Telephone: 607-255-3976).
Cornell University is committed to assisting those persons with disabilities who have special needs. A brochure describing services for persons with disabilities may be obtained by writing to the Office of Equal Opportunity, Cornell University, 234 Day Hall, Ithaca, NY 14853-2801. Other questions or requests for special assistance may also be directed to that office.